

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:07:45

INPUT SET: S7068.raw

SEQUENCE LISTING

ENTERED

(1) General Information:

(i) APPLICANT: Artavanis-Tsakonas, S. et al.

(ii) TITLE OF INVENTION: Therapeutic And Diagnostic Methods
And Compositions Based On Notch Proteins And
Nucleic Acids

(iii) NUMBER OF SEQUENCES: 21

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Pennie & Edmonds
(B) STREET: 1155 Avenue of the Americas
(C) CITY: New York
(D) STATE: New York
(E) COUNTRY: U.S.A.
(F) ZIP: 10036

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.25

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: 08/083,590
(B) FILING DATE: 25-JUN-1993
(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: Misrock, S. Leslie
(B) REGISTRATION NUMBER: 18,872
(C) REFERENCE/DOCKET NUMBER: 7326-015

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: 212 790-9090
(B) TELEFAX: 212 8698864/9741
(C) TELEX: 66141 PENNIE

(2) INFORMATION FOR SEQ ID NO:1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 2892 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: unknown

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DATE: 12/16/93
TIME: 13:07:51

INPUT SET: S7068.raw

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52      (ii) MOLECULE TYPE: cDNA
53
54
55      (ix) FEATURE:
56          (A) NAME/KEY: CDS
57          (B) LOCATION: 142..2640
58
59
60      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
61
62      GAATTCGGAG GAATTATTCA AACATAAAC ACAATAAACA ATTTGAGTAG TTGCCGCACA      60
63
64      CACACACACA CACAGCCCGT GGATTATTAC ACTAAAAGCG ACACTCAATC CAAAAAATCA      120
65
66      GCAACAAAAA CATCAATAAA C ATG CAT TGG ATT AAA TGT TTA TTA ACA GCA      171
67                      Met His Trp Ile Lys Cys Leu Leu Thr Ala
68                      1                      5                      10
69
70      TTC ATT TGC TTC ACA GTC ATC GTG CAG GTT CAC AGT TCC GGC AGC TTT      219
71      Phe Ile Cys Phe Thr Val Ile Val Gln Val His Ser Ser Gly Ser Phe
72                      15                      20                      25
73
74      GAG TTG CGC CTG AAG TAC TTC AGC AAC GAT CAC GGG CGG GAC AAC GAG      267
75      Glu Leu Arg Leu Lys Tyr Phe Ser Asn Asp His Gly Arg Asp Asn Glu
76                      30                      35                      40
77
78      GGT CGC TGC TGC AGC GGG GAG TCG GAC GGA GCG ACG GGC AAG TGC CTG      315
79      Gly Arg Cys Cys Ser Gly Glu Ser Asp Gly Ala Thr Gly Lys Cys Leu
80                      45                      50                      55
81
82      GGC AGC TGC AAG ACG CGG TTT CGC GTC TGC CTA AAG CAC TAC CAG GCC      363
83      Gly Ser Cys Lys Thr Arg Phe Arg Val Cys Leu Lys His Tyr Gln Ala
84                      60                      65                      70
85
86      ACC ATC GAC ACC ACC TCC CAG TGC ACC TAC GGG GAC GTG ATC ACG CCC      411
87      Thr Ile Asp Thr Thr Ser Gln Cys Thr Tyr Gly Asp Val Ile Thr Pro
88      75                      80                      85                      90
89
90      ATT CTC GGC GAG AAC TCG GTC AAT CTG ACC GAC GCC CAG CGC TTC CAG      459
91      Ile Leu Gly Glu Asn Ser Val Asn Leu Thr Asp Ala Gln Arg Phe Gln
92                      95                      100                      105
93
94      AAC AAG GGC TTC ACG AAT CCC ATC CAG TTC CCC TTC TCG TTC TCA TGG      507
95      Asn Lys Gly Phe Thr Asn Pro Ile Gln Phe Pro Phe Ser Phe Ser Trp
96                      110                      115                      120
97
98      CCG GGT ACC TTC TCG CTG ATC GTC GAG GCC TGG CAT GAT ACG AAC AAT      555
99      Pro Gly Thr Phe Ser Leu Ile Val Glu Ala Trp His Asp Thr Asn Asn
100                      125                      130                      135
101
102      AGC GGC AAT GCG CGA ACC AAC AAG CTC CTC ATC CAG CGA CTC TTG GTG      603

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INPUT SET: S7068.raw

103	Ser Gly Asn Ala Arg Thr Asn Lys Leu Leu Ile Gln Arg Leu Leu Val	
104	140 145 150	
105		
106	CAG CAG GTA CTG GAG GTG TCC TCC GAA TGG AAG ACG AAC AAG TCG GAA	651
107	Gln Gln Val Leu Glu Val Ser Ser Glu Trp Lys Thr Asn Lys Ser Glu	
108	155 160 165 170	
109		
110	TCG CAG TAC ACG TCG CTG GAG TAC GAT TTC CGT GTC ACC TGC GAT CTC	699
111	Ser Gln Tyr Thr Ser Leu Glu Tyr Asp Phe Arg Val Thr Cys Asp Leu	
112	175 180 185	
113		
114	AAC TAC TAC GGA TCC GGC TGT GCC AAG TTC TGC CGG CCC CGC GAC GAT	747
115	Asn Tyr Tyr Gly Ser Gly Cys Ala Lys Phe Cys Arg Pro Arg Asp Asp	
116	190 195 200	
117		
118	TCA TTT GGA CAC TCG ACT TGC TCG GAG ACG GGC GAA ATT ATC TGT TTG	795
119	Ser Phe Gly His Ser Thr Cys Ser Glu Thr Gly Glu Ile Ile Cys Leu	
120	205 210 215	
121		
122	ACC GGA TGG CAG GGC GAT TAC TGT CAC ATA CCC AAA TGC GCC AAA GGC	843
123	Thr Gly Trp Gln Gly Asp Tyr Cys His Ile Pro Lys Cys Ala Lys Gly	
124	220 225 230	
125		
126	TGT GAA CAT GGA CAT TGC GAC AAA CCC AAT CAA TGC GTT TGC CAA CTG	891
127	Cys Glu His Gly His Cys Asp Lys Pro Asn Gln Cys Val Cys Gln Leu	
128	235 240 245 250	
129		
130	GGC TGG AAG GGA GCC TTG TGC AAC GAG TGC GTT CTG GAA CCG AAC TGC	939
131	Gly Trp Lys Gly Ala Leu Cys Asn Glu Cys Val Leu Glu Pro Asn Cys	
132	255 260 265	
133		
134	ATC CAT GGC ACC TGC AAC AAA CCC TGG ACT TGC ATC TGC AAC GAG GGT	987
135	Ile His Gly Thr Cys Asn Lys Pro Trp Thr Cys Ile Cys Asn Glu Gly	
136	270 275 280	
137		
138	TGG GGA GGC TTG TAC TGC AAC CAG GAT CTG AAC TAC TGC ACC AAC CAC	1035
139	Trp Gly Gly Leu Tyr Cys Asn Gln Asp Leu Asn Tyr Cys Thr Asn His	
140	285 290 295	
141		
142	AGA CCC TGC AAG AAT GGC GGA ACC TGC TTC AAC ACC GGC GAG GGA TTG	1083
143	Arg Pro Cys Lys Asn Gly Gly Thr Cys Phe Asn Thr Gly Glu Gly Leu	
144	300 305 310	
145		
146	TAC ACA TGC AAA TGC GCT CCA GGA TAC AGT GGT GAT GAT TGC GAA AAT	1131
147	Tyr Thr Cys Lys Cys Ala Pro Gly Tyr Ser Gly Asp Asp Cys Glu Asn	
148	315 320 325 330	
149		
150	GAG ATC TAC TCC TGC GAT GCC GAT GTC AAT CCC TGC CAG AAT GGT GGT	1179
151	Glu Ile Tyr Ser Cys Asp Ala Asp Val Asn Pro Cys Gln Asn Gly Gly	
152	335 340 345	
153		

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154	ACC TGC ATC GAT GAG CCG CAC ACA AAA ACC GGC TAC AAG TGT CAT TGC	1227
155	Thr Cys Ile Asp Glu Pro His Thr Lys Thr Gly Tyr Lys Cys His Cys	
156	350 355 360	
157		
158	GCC AAC GGC TGG AGC GGA AAG ATG TGC GAG GAG AAA GTG CTC ACG TGT	1275
159	Ala Asn Gly Trp Ser Gly Lys Met Cys Glu Glu Lys Val Leu Thr Cys	
160	365 370 375	
161		
162	TCG GAC AAA CCC TGT CAT CAG GGA ATC TGC CGC AAC GTT CGT CCT GGC	1323
163	Ser Asp Lys Pro Cys His Gln Gly Ile Cys Arg Asn Val Arg Pro Gly	
164	380 385 390	
165		
166	TTG GGA AGC AAG GGT CAG GGC TAC CAG TGC GAA TGT CCC ATT GGC TAC	1371
167	Leu Gly Ser Lys Gly Gln Gly Tyr Gln Cys Glu Cys Pro Ile Gly Tyr	
168	395 400 405 410	
169		
170	AGC GGA CCC AAC TGC GAT CTC CAG CTG GAC AAC TGC AGT CCG AAT CCA	1419
171	Ser Gly Pro Asn Cys Asp Leu Gln Leu Asp Asn Cys Ser Pro Asn Pro	
172	415 420 425	
173		
174	TGC ATA AAC GGT GGA AGC TGT CAG CCG AGC GGA AAG TGT ATT TGC CCA	1467
175	Cys Ile Asn Gly Gly Ser Cys Gln Pro Ser Gly Lys Cys Ile Cys Pro	
176	430 435 440	
177		
178	GCG GGA TTT TCG GGA ACG AGA TGC GAG ACC AAC ATT GAC GAT TGT CTT	1515
179	Ala Gly Phe Ser Gly Thr Arg Cys Glu Thr Asn Ile Asp Asp Cys Leu	
180	445 450 455	
181		
182	GGC CAC CAG TGC GAG AAC GGA GGC ACC TGC ATA GAT ATG GTC AAC CAA	1563
183	Gly His Gln Cys Glu Asn Gly Gly Thr Cys Ile Asp Met Val Asn Gln	
184	460 465 470	
185		
186	TAT CGC TGC CAA TGC GTT CCC GGT TTC CAT GGC ACC CAC TGT AGT AGC	1611
187	Tyr Arg Cys Gln Cys Val Pro Gly Phe His Gly Thr His Cys Ser Ser	
188	475 480 485 490	
189		
190	AAA GTT GAC TTG TGC CTC ATC AGA CCG TGT GCC AAT GGA GGA ACC TGC	1659
191	Lys Val Asp Leu Cys Leu Ile Arg Pro Cys Ala Asn Gly Gly Thr Cys	
192	495 500 505	
193		
194	TTG AAT CTC AAC AAC GAT TAC CAG TGC ACC TGT CGT GCG GGA TTT ACT	1707
195	Leu Asn Leu Asn Asn Asp Tyr Gln Cys Thr Cys Arg Ala Gly Phe Thr	
196	510 515 520	
197		
198	GGC AAG GAT TGC TCT GTG GAC ATC GAT GAG TGC AGC AGT GGA CCC TGT	1755
199	Gly Lys Asp Cys Ser Val Asp Ile Asp Glu Cys Ser Ser Gly Pro Cys	
200	525 530 535	
201		
202	CAT AAC GGC GGC ACT TGC ATG AAC CGC GTC AAT TCG TTC GAA TGC GTG	1803
203	His Asn Gly Gly Thr Cys Met Asn Arg Val Asn Ser Phe Glu Cys Val	
204	540 545 550	

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205																			
206	TGT	GCC	AAT	GGT	TTC	AGG	GGC	AAG	CAG	TGC	GAT	GAG	GAG	TCC	TAC	GAT			1851
207	Cys	Ala	Asn	Gly	Phe	Arg	Gly	Lys	Gln	Cys	Asp	Glu	Glu	Ser	Tyr	Asp			
208	555					560					565					570			
209																			
210	TCG	GTG	ACC	TTC	GAT	GCC	CAC	CAA	TAT	GGA	GCG	ACC	ACA	CAA	GCG	AGA			1899
211	Ser	Val	Thr	Phe	Asp	Ala	His	Gln	Tyr	Gly	Ala	Thr	Thr	Gln	Ala	Arg			
212					575					580					585				
213																			
214	GCC	GAT	GGT	TTG	ACC	AAT	GCC	CAG	GTA	GTC	CTA	ATT	GCT	GTT	TTC	TCC			1947
215	Ala	Asp	Gly	Leu	Thr	Asn	Ala	Gln	Val	Val	Leu	Ile	Ala	Val	Phe	Ser			
216				590				595					600						
217																			
218	GTT	GCG	ATG	CCT	TTG	GTG	GCG	GTT	ATT	GCG	GCG	TGC	GTG	GTC	TTC	TGC			1995
219	Val	Ala	Met	Pro	Leu	Val	Ala	Val	Ile	Ala	Ala	Cys	Val	Val	Phe	Cys			
220			605					610					615						
221																			
222	ATG	AAG	CGC	AAG	CGT	AAG	CGT	GCT	CAG	GAA	AAG	GAC	GAC	GCG	GAG	GCC			2043
223	Met	Lys	Arg	Lys	Arg	Lys	Arg	Ala	Gln	Glu	Lys	Asp	Asp	Ala	Glu	Ala			
224			620				625					630							
225																			
226	AGG	AAG	CAG	AAC	GAA	CAG	AAT	GCG	GTG	GCC	ACA	ATG	CAT	CAC	AAT	GGC			2091
227	Arg	Lys	Gln	Asn	Glu	Gln	Asn	Ala	Val	Ala	Thr	Met	His	His	Asn	Gly			
228	635					640					645					650			
229																			
230	AGT	GGG	GTG	GGT	GTA	GCT	TTG	GCT	TCA	GCC	TCT	CTG	GGC	GGC	AAA	ACT			2139
231	Ser	Gly	Val	Gly	Val	Ala	Leu	Ala	Ser	Ala	Ser	Leu	Gly	Gly	Lys	Thr			
232					655					660					665				
233																			
234	GGC	AGC	AAC	AGC	GGT	CTC	ACC	TTC	GAT	GGC	GGC	AAC	CCG	AAT	ATC	ATC			2187
235	Gly	Ser	Asn	Ser	Gly	Leu	Thr	Phe	Asp	Gly	Gly	Asn	Pro	Asn	Ile	Ile			
236				670					675				680						
237																			
238	AAA	AAC	ACC	TGG	GAC	AAG	TCG	GTC	AAC	AAC	ATT	TGT	GCC	TCA	GCA	GCA			2235
239	Lys	Asn	Thr	Trp	Asp	Lys	Ser	Val	Asn	Asn	Ile	Cys	Ala	Ser	Ala	Ala			
240			685					690					695						
241																			
242	GCA	GCG	GCG	GCG	GCA	GCA	GCG	GCG	GAC	GAG	TGT	CTC	ATG	TAC	GGC				2283
243	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Asp	Glu	Cys	Leu	Met	Tyr	Gly			
244			700				705					710							
245																			
246	GGA	TAT	GTG	GCC	TCG	GTG	GCG	GAT	AAC	AAC	AAT	GCC	AAC	TCA	GAC	TTT			2331
247	Gly	Tyr	Val	Ala	Ser	Val	Ala	Asp	Asn	Asn	Asn	Ala	Asn	Ser	Asp	Phe			
248	715					720				725					730				
249																			
250	TGT	GTG	GCT	CCG	CTA	CAA	AGA	GCC	AAG	TCG	CAA	AAG	CAA	CTC	AAC	ACC			2379
251	Cys	Val	Ala	Pro	Leu	Gln	Arg	Ala	Lys	Ser	Gln	Lys	Gln	Leu	Asn	Thr			
252					735					740					745				
253																			
254	GAT	CCC	ACG	CTC	ATG	CAC	CGC	GGT	TCG	CCG	GCA	GGC	AGC	TCA	GCC	AAG			2427
255	Asp	Pro	Thr	Leu	Met	His	Arg	Gly	Ser	Pro	Ala	Gly	Ser	Ser	Ala	Lys			

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256          750          755          760
257
258 GGA GCG TCT GGC GGA GGA CCG GGA GCG GCG GAG GGC AAG AGG ATC TCT      2475
259 Gly Ala Ser Gly Gly Gly Pro Gly Ala Ala Glu Gly Lys Arg Ile Ser
260          765          770          775
261
262 GTT TTA GGC GAG GGT TCC TAC TGT AGC CAG CGT TGG CCC TCG TTG GCG      2523
263 Val Leu Gly Glu Gly Ser Tyr Cys Ser Gln Arg Trp Pro Ser Leu Ala
264          780          785          790
265
266 GCG GCG GGA GTG GCC GGA GCC TGT TCA TCC CAG CTA ATG GCT GCA GCT      2571
267 Ala Ala Gly Val Ala Gly Ala Cys Ser Ser Gln Leu Met Ala Ala Ala
268 795          800          805          810
269
270 TCG GCA GCG GGC AGC GGA GCG GGG ACG GCG CAA CAG CAG CGA TCC GTG      2619
271 Ser Ala Ala Gly Ser Gly Ala Gly Thr Ala Gln Gln Gln Arg Ser Val
272          815          820          825
273
274 GTC TGC GGC ACT CCG CAT ATG TAACTCCAAA AATCCGGAAG GGCTCCTGGT      2670
275 Val Cys Gly Thr Pro His Met
276          830
277
278 AAATCCGGAG AAATCCGCAT GGAGGAGCTG ACAGCACATA CACAAAGAAA AGACTGGGTT      2730
279
280 GGGTTCAAAA TGTGAGAGAG ACGCCAAAAT GTTGTGTGTTG ATTGAAGCAG TTTAGTCGTC      2790
281
282 ACGAAAAATG AAAAATCTGT AACAGGCATA ACTCGTAAAC TCCCTAAAAA ATTTGTATAG      2850
283
284 TAATTAGCAA AGCTGTGACC CAGCCGTTTC GATCCCGAAT TC      2892
285
286
287 (2) INFORMATION FOR SEQ ID NO:2:
288
289 (i) SEQUENCE CHARACTERISTICS:
290 (A) LENGTH: 833 amino acids
291 (B) TYPE: amino acid
292 (D) TOPOLOGY: unknown
293
294 (ii) MOLECULE TYPE: protein
295
296 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:
297
298 Met His Trp Ile Lys Cys Leu Leu Thr Ala Phe Ile Cys Phe Thr Val
299 1          5          10          15
300
301 Ile Val Gln Val His Ser Ser Gly Ser Phe Glu Leu Arg Leu Lys Tyr
302          20          25          30
303
304 Phe Ser Asn Asp His Gly Arg Asp Asn Glu Gly Arg Cys Cys Ser Gly
305          35          40          45
306

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307  Glu Ser Asp Gly Ala Thr Gly Lys Cys Leu Gly Ser Cys Lys Thr Arg
308      50                      55                      60
309
310  Phe Arg Val Cys Leu Lys His Tyr Gln Ala Thr Ile Asp Thr Thr Ser
311      65                      70                      75                      80
312
313  Gln Cys Thr Tyr Gly Asp Val Ile Thr Pro Ile Leu Gly Glu Asn Ser
314                      85                      90                      95
315
316  Val Asn Leu Thr Asp Ala Gln Arg Phe Gln Asn Lys Gly Phe Thr Asn
317                      100                    105                    110
318
319  Pro Ile Gln Phe Pro Phe Ser Phe Ser Trp Pro Gly Thr Phe Ser Leu
320                      115                    120                    125
321
322  Ile Val Glu Ala Trp His Asp Thr Asn Asn Ser Gly Asn Ala Arg Thr
323                      130                    135                    140
324
325  Asn Lys Leu Leu Ile Gln Arg Leu Leu Val Gln Gln Val Leu Glu Val
326      145                      150                    155                    160
327
328  Ser Ser Glu Trp Lys Thr Asn Lys Ser Glu Ser Gln Tyr Thr Ser Leu
329                      165                    170                    175
330
331  Glu Tyr Asp Phe Arg Val Thr Cys Asp Leu Asn Tyr Tyr Gly Ser Gly
332                      180                    185                    190
333
334  Cys Ala Lys Phe Cys Arg Pro Arg Asp Asp Ser Phe Gly His Ser Thr
335                      195                    200                    205
336
337  Cys Ser Glu Thr Gly Glu Ile Ile Cys Leu Thr Gly Trp Gln Gly Asp
338                      210                    215                    220
339
340  Tyr Cys His Ile Pro Lys Cys Ala Lys Gly Cys Glu His Gly His Cys
341      225                      230                    235                    240
342
343  Asp Lys Pro Asn Gln Cys Val Cys Gln Leu Gly Trp Lys Gly Ala Leu
344                      245                    250                    255
345
346  Cys Asn Glu Cys Val Leu Glu Pro Asn Cys Ile His Gly Thr Cys Asn
347                      260                    265                    270
348
349  Lys Pro Trp Thr Cys Ile Cys Asn Glu Gly Trp Gly Gly Leu Tyr Cys
350                      275                    280                    285
351
352  Asn Gln Asp Leu Asn Tyr Cys Thr Asn His Arg Pro Cys Lys Asn Gly
353                      290                    295                    300
354
355  Gly Thr Cys Phe Asn Thr Gly Glu Gly Leu Tyr Thr Cys Lys Cys Ala
356      305                      310                    315                    320
357

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358 Pro Gly Tyr Ser Gly Asp Asp Cys Glu Asn Glu Ile Tyr Ser Cys Asp
359           325           330           335
360
361 Ala Asp Val Asn Pro Cys Gln Asn Gly Gly Thr Cys Ile Asp Glu Pro
362           340           345           350
363
364 His Thr Lys Thr Gly Tyr Lys Cys His Cys Ala Asn Gly Trp Ser Gly
365           355           360           365
366
367 Lys Met Cys Glu Glu Lys Val Leu Thr Cys Ser Asp Lys Pro Cys His
368           370           375           380
369
370 Gln Gly Ile Cys Arg Asn Val Arg Pro Gly Leu Gly Ser Lys Gly Gln
371           385           390           395           400
372
373 Gly Tyr Gln Cys Glu Cys Pro Ile Gly Tyr Ser Gly Pro Asn Cys Asp
374           405           410           415
375
376 Leu Gln Leu Asp Asn Cys Ser Pro Asn Pro Cys Ile Asn Gly Gly Ser
377           420           425           430
378
379 Cys Gln Pro Ser Gly Lys Cys Ile Cys Pro Ala Gly Phe Ser Gly Thr
380           435           440           445
381
382 Arg Cys Glu Thr Asn Ile Asp Asp Cys Leu Gly His Gln Cys Glu Asn
383           450           455           460
384
385 Gly Gly Thr Cys Ile Asp Met Val Asn Gln Tyr Arg Cys Gln Cys Val
386           465           470           475           480
387
388 Pro Gly Phe His Gly Thr His Cys Ser Ser Lys Val Asp Leu Cys Leu
389           485           490           495
390
391 Ile Arg Pro Cys Ala Asn Gly Gly Thr Cys Leu Asn Leu Asn Asn Asp
392           500           505           510
393
394 Tyr Gln Cys Thr Cys Arg Ala Gly Phe Thr Gly Lys Asp Cys Ser Val
395           515           520           525
396
397 Asp Ile Asp Glu Cys Ser Ser Gly Pro Cys His Asn Gly Gly Thr Cys
398           530           535           540
399
400 Met Asn Arg Val Asn Ser Phe Glu Cys Val Cys Ala Asn Gly Phe Arg
401           545           550           555           560
402
403 Gly Lys Gln Cys Asp Glu Glu Ser Tyr Asp Ser Val Thr Phe Asp Ala
404           565           570           575
405
406 His Gln Tyr Gly Ala Thr Thr Gln Ala Arg Ala Asp Gly Leu Thr Asn
407           580           585           590
408

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409 Ala Gln Val Val Leu Ile Ala Val Phe Ser Val Ala Met Pro Leu Val
410 595 600 605
411
412 Ala Val Ile Ala Ala Cys Val Val Phe Cys Met Lys Arg Lys Arg Lys
413 610 615 620
414
415 Arg Ala Gln Glu Lys Asp Asp Ala Glu Ala Arg Lys Gln Asn Glu Gln
416 625 630 635 640
417
418 Asn Ala Val Ala Thr Met His His Asn Gly Ser Gly Val Gly Val Ala
419 645 650 655
420
421 Leu Ala Ser Ala Ser Leu Gly Gly Lys Thr Gly Ser Asn Ser Gly Leu
422 660 665 670
423
424 Thr Phe Asp Gly Gly Asn Pro Asn Ile Ile Lys Asn Thr Trp Asp Lys
425 675 680 685
426
427 Ser Val Asn Asn Ile Cys Ala Ser Ala Ala Ala Ala Ala Ala Ala
428 690 695 700
429
430 Ala Ala Ala Asp Glu Cys Leu Met Tyr Gly Gly Tyr Val Ala Ser Val
431 705 710 715 720
432
433 Ala Asp Asn Asn Asn Ala Asn Ser Asp Phe Cys Val Ala Pro Leu Gln
434 725 730 735
435
436 Arg Ala Lys Ser Gln Lys Gln Leu Asn Thr Asp Pro Thr Leu Met His
437 740 745 750
438
439 Arg Gly Ser Pro Ala Gly Ser Ser Ala Lys Gly Ala Ser Gly Gly Gly
440 755 760 765
441
442 Pro Gly Ala Ala Glu Gly Lys Arg Ile Ser Val Leu Gly Glu Gly Ser
443 770 775 780
444
445 Tyr Cys Ser Gln Arg Trp Pro Ser Leu Ala Ala Ala Gly Val Ala Gly
446 785 790 795 800
447
448 Ala Cys Ser Ser Gln Leu Met Ala Ala Ala Ser Ala Ala Gly Ser Gly
449 805 810 815
450
451 Ala Gly Thr Ala Gln Gln Gln Arg Ser Val Val Cys Gly Thr Pro His
452 820 825 830
453
454 Met
455
456
457 (2) INFORMATION FOR SEQ ID NO:3:
458
459 (i) SEQUENCE CHARACTERISTICS:

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:08:42

INPUT SET: S7068.raw

460 (A) LENGTH: 1320 base pairs
461 (B) TYPE: nucleic acid
462 (C) STRANDEDNESS: double
463 (D) TOPOLOGY: unknown
464
465 (ii) MOLECULE TYPE: cDNA
466
467
468 (ix) FEATURE:
469 (A) NAME/KEY: CDS
470 (B) LOCATION: 442..1320
471
472
473
474 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:
475
476 CCGAGTCGAG CGCCGTGCTT CGAGCGGTGA TGAGCCCCCTT TTCTGTCAAC GCTAAAGATC 60
477
478 TACAAAACAT CAGCGCCTAT CAAGTGGAAG TGTCAAGTGT GAACAAAACA AAAACGAGAG 120
479
480 AAGCACATAC TAAGGTCCAT ATAAATAATA AATAATAATT GTGTGTGATA ACAACATTAT 180
481
482 CCAAACAAAA CCAAACAAAA CGAAGGCAAA GTGGAGAAAA TGATACAGCA TCCAGAGTAC 240
483
484 GGCCGTTATT CAGCTATCCA GAGCAAGTGT AGTGTGGCAA AATAGAAACA AACAAAGGCA 300
485
486 CCAAATCTG CATACTGGG CTAATTAAGG CTGCCCAGCG AATTTACATT TGTGTGGTGC 360
487
488 CAATCCAGAG TGAATCCGAA ACAAACCTCCA TCTAGATCGC CAACCAGCAT CACGCTCGCA 420
489
490 AACGCCCCCA GAATGTACAA A ATG TTT AGG AAA CAT TTT CGG CGA AAA CCA 471
491 Met Phe Arg Lys His Phe Arg Arg Lys Pro
492 1 5 10
493
494 GCT ACG TCG TCG TCG TTG GAG TCA ACA ATA GAA TCA GCA GAC AGC CTG 519
495 Ala Thr Ser Ser Ser Leu Glu Ser Thr Ile Glu Ser Ala Asp Ser Leu
496 15 20 25
497
498 GGA ATG TCC AAG AAG ACG GCG ACA AAA AGG CAG CGT CCG AGG CAT CGG 567
499 Gly Met Ser Lys Lys Thr Ala Thr Lys Arg Gln Arg Pro Arg His Arg
500 30 35 40
501
502 GTA CCC AAA ATC GCG ACC CTG CCA TCG ACG ATC CGC GAT TGT CGA TCA 615
503 Val Pro Lys Ile Ala Thr Leu Pro Ser Thr Ile Arg Asp Cys Arg Ser
504 45 50 55
505
506 TTA AAG TCT GCC TGC AAC TTA ATT GCT TTA ATT TTA ATA CTG TTA GTC 663
507 Leu Lys Ser Ala Cys Asn Leu Ile Ala Leu Ile Leu Ile Leu Leu Val
508 60 65 70
509
510 CAT AAG ATA TCC GCA GCT GGT AAC TTC GAG CTG GAA ATA TTA GAA ATC 711

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:08:49

INPUT SET: S7068.raw

511	His Lys Ile Ser Ala Ala Gly Asn Phe Glu Leu Glu Ile Leu Glu Ile	
512	75 80 85 90	
513		
514	TCA AAT ACC AAC AGC CAT CTA CTC AAC GGC TAT TGC TGC GGC ATG CCA	759
515	Ser Asn Thr Asn Ser His Leu Leu Asn Gly Tyr Cys Cys Gly Met Pro	
516	95 100 105	
517		
518	GCG GAA CTT AGG GCC ACC AAG ACG ATA GGC TGC TCG CCA TGC ACG ACG	807
519	Ala Glu Leu Arg Ala Thr Lys Thr Ile Gly Cys Ser Pro Cys Thr Thr	
520	110 115 120	
521		
522	GCA TTC CGG CTG TGC CTG AAG GAG TAC CAG ACC ACG GAG CAG GGT GCC	855
523	Ala Phe Arg Leu Cys Leu Lys Glu Tyr Gln Thr Thr Glu Gln Gly Ala	
524	125 130 135	
525		
526	AGC ATA TCC ACG GGC TGT TCG TTT GGC AAC GCC ACC ACC AAG ATA CTG	903
527	Ser Ile Ser Thr Gly Cys Ser Phe Gly Asn Ala Thr Thr Lys Ile Leu	
528	140 145 150	
529		
530	GGT GGC TCC AGC TTT GTG CTC AGC GAT CCG GGT GTG GGA GCC ATT GTG	951
531	Gly Gly Ser Ser Phe Val Leu Ser Asp Pro Gly Val Gly Ala Ile Val	
532	155 160 165 170	
533		
534	CTG CCC TTT ACG TTT CGT TGG ACG AAG TCG TTT ACG CTG ATA CTG CAG	999
535	Leu Pro Phe Thr Phe Arg Trp Thr Lys Ser Phe Thr Leu Ile Leu Gln	
536	175 180 185	
537		
538	GCG TTG GAT ATG TAC AAC ACA TCC TAT CCA GAT GCG GAG AGG TTA ATT	1047
539	Ala Leu Asp Met Tyr Asn Thr Ser Tyr Pro Asp Ala Glu Arg Leu Ile	
540	190 195 200	
541		
542	GAG GAA ACA TCA TAC TCG GGC GTG ATA CTG CCG TCG CCG GAG TGG AAG	1095
543	Glu Glu Thr Ser Tyr Ser Gly Val Ile Leu Pro Ser Pro Glu Trp Lys	
544	205 210 215	
545		
546	ACG CTG GAC CAC ATC GGG CGG AAC GCG CGG ATC ACC TAC CGT GTC CGG	1143
547	Thr Leu Asp His Ile Gly Arg Asn Ala Arg Ile Thr Tyr Arg Val Arg	
548	220 225 230	
549		
550	GTG CAA TGC GCC GTT ACC TAC TAC AAC ACG ACC TGC ACG ACC TTC TGC	1191
551	Val Gln Cys Ala Val Thr Tyr Tyr Asn Thr Thr Cys Thr Thr Phe Cys	
552	235 240 245 250	
553		
554	CGT CCG CGG GAC GAT CAG TTC GGT CAC TAC GCC TGC GGC TCC GAG GGT	1239
555	Arg Pro Arg Asp Asp Gln Phe Gly His Tyr Ala Cys Gly Ser Glu Gly	
556	255 260 265	
557		
558	CAG AAG CTC TGC CTG AAT GGC TGG CAG GGC GTC AAC TGC GAG GAG GCC	1287
559	Gln Lys Leu Cys Leu Asn Gly Trp Gln Gly Val Asn Cys Glu Glu Ala	
560	270 275 280	
561		

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:08:55

INPUT SET: S7068.raw

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562   ATA TGC AAG GCG GGC TGC GAC CCC GTC CAC GGC
563   Ile Cys Lys Ala Gly Cys Asp Pro Val His Gly
564           285                      290
565
566
567   (2) INFORMATION FOR SEQ ID NO:4:
568
569       (i) SEQUENCE CHARACTERISTICS:
570           (A) LENGTH: 293 amino acids
571           (B) TYPE: amino acid
572           (D) TOPOLOGY: unknown
573
574       (ii) MOLECULE TYPE: protein
575
576       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:
577
578   Met Phe Arg Lys His Phe Arg Arg Lys Pro Ala Thr Ser Ser Ser Leu
579       1             5             10             15
580
581   Glu Ser Thr Ile Glu Ser Ala Asp Ser Leu Gly Met Ser Lys Lys Thr
582           20             25             30
583
584   Ala Thr Lys Arg Gln Arg Pro Arg His Arg Val Pro Lys Ile Ala Thr
585           35             40             45
586
587   Leu Pro Ser Thr Ile Arg Asp Cys Arg Ser Leu Lys Ser Ala Cys Asn
588       50             55             60
589
590   Leu Ile Ala Leu Ile Leu Ile Leu Leu Val His Lys Ile Ser Ala Ala
591       65             70             75             80
592
593   Gly Asn Phe Glu Leu Glu Ile Leu Glu Ile Ser Asn Thr Asn Ser His
594           85             90             95
595
596   Leu Leu Asn Gly Tyr Cys Cys Gly Met Pro Ala Glu Leu Arg Ala Thr
597       100            105            110
598
599   Lys Thr Ile Gly Cys Ser Pro Cys Thr Thr Ala Phe Arg Leu Cys Leu
600       115            120            125
601
602   Lys Glu Tyr Gln Thr Thr Glu Gln Gly Ala Ser Ile Ser Thr Gly Cys
603       130            135            140
604
605   Ser Phe Gly Asn Ala Thr Thr Lys Ile Leu Gly Gly Ser Ser Phe Val
606       145            150            155            160
607
608   Leu Ser Asp Pro Gly Val Gly Ala Ile Val Leu Pro Phe Thr Phe Arg
609           165            170            175
610
611   Trp Thr Lys Ser Phe Thr Leu Ile Leu Gln Ala Leu Asp Met Tyr Asn
612           180            185            190

```

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:09:01

INPUT SET: S7068.raw

613
614 Thr Ser Tyr Pro Asp Ala Glu Arg Leu Ile Glu Glu Thr Ser Tyr Ser
615 195 200 205
616
617 Gly Val Ile Leu Pro Ser Pro Glu Trp Lys Thr Leu Asp His Ile Gly
618 210 215 220
619
620 Arg Asn Ala Arg Ile Thr Tyr Arg Val Arg Val Gln Cys Ala Val Thr
621 225 230 235 240
622
623 Tyr Tyr Asn Thr Thr Cys Thr Thr Phe Cys Arg Pro Arg Asp Asp Gln
624 245 250 255
625
626 Phe Gly His Tyr Ala Cys Gly Ser Glu Gly Gln Lys Leu Cys Leu Asn
627 260 265 270
628
629 Gly Trp Gln Gly Val Asn Cys Glu Glu Ala Ile Cys Lys Ala Gly Cys
630 275 280 285
631
632 Asp Pro Val His Gly
633 290
634
635

(2) INFORMATION FOR SEQ ID NO:5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 267 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

649
650 CGGTGGACTT CCTTCGTGTA TTGGTGGGAG CCCTCGGGAA CGGGGGGTAA CACTGAAAGG 60
651
652 TCGAGTACCC ATTTCCGTCA TAACGGGTTG GTCGCCCCCT AGGGGTCGGA GTCAGGTGGA 120
653
654 CGGGAGGTCG ACAACGCCCCG GGGGACGGGT GGTACATGGT GTAAGGTCTT TACCGGACCG 180
655
656 GGCAAACGGG TCACACCGAA AGGGGTGAAC GGTAAC TACG GGGTCGTCCT GCCCGTCCAT 240
657
658 CGAGTCTGGT AAGAGGGTCG CCTTAAG 267
659

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 574 base pairs

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:09:08

INPUT SET: S7068.raw

664 (B) TYPE: nucleic acid
665 (C) STRANDEDNESS: double
666 (D) TOPOLOGY: unknown
667
668 (ii) MOLECULE TYPE: cDNA
669
670
671
672
673 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:
674
675 GAATTCCTTC CATTATACGT GACTTTTCTG AAAGTGTAGC CACCCTAGTG TCTCTAACTC 60
676
677 CCTCTGGAGT TTGTCAGCTT TGGTCTTTTC AAAGAGCAGG CTCTCTTCAA GCTCCTTAAT 120
678
679 GCGGGCATGC TCCAGTTTGG TCTGCGTCTC AAGATCACCT TTGGTAATTG ATTCTTCTTC 180
680
681 AACCCGGAAC TGAAGGCTGG CTCTCACCTT CTAGGCAGAG CAGGAATTCC GAGGTGGATG 240
682
683 TGTTAGATGT GAATGTCCGT GGCCAGATG GCTGCACCCC ATTGATGTTG GCTTCTCTCC 300
684
685 GAGGAGGCAG CTCAGATTTG AGTGATGAAG ATGAAGATGC AGAGGACTGT TCTGCTAACA 360
686
687 TCATCACAGA CTTGGTCTAC CAGGGTGCCA GCCTCCAGNC CAGACAGACC GGACTGGTGA 420
688
689 GATGGCCCTG CACCTTGCAG CCCGCTACTC ACGGGCTGAT GCTGCCAAGC GTCTCCTGGA 480
690
691 TGCAGGTGCA GATGCCAATG CCCAGGACAA CATGGGCCGC TGTCCACTCC ATGCTGCAGT 540
692
693 GGCACGTGAT GCCAAGGTGT ATTCAGATCT GTTA 574
694
695 (2) INFORMATION FOR SEQ ID NO:7:
696
697 (i) SEQUENCE CHARACTERISTICS:
698 (A) LENGTH: 295 base pairs
699 (B) TYPE: nucleic acid
700 (C) STRANDEDNESS: double
701 (D) TOPOLOGY: unknown
702
703 (ii) MOLECULE TYPE: cDNA
704
705
706
707 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:
708
709 TCCAGATTCT GATTGCAAC CGAGTAACTG ATCTAGATGC CAGGATGAAT GATGGTACTA 60
710
711 CACCCCTGAT CCTGGCTGCC CGCCTGGCTG TGGAGGGAAT GGTGGCAGAA CTGATCAACT 120
712
713 GCCAAGCGGA TGTGAATGCA GTGGATGACC ATGGAATATC TGCTCTTCAC TGGGCAGCTG 180
714

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:09:14

INPUT SET: S7068.raw

715 CTGTCAATAA TGTGGAGGCA ACTCTTTTGT TGTGAAAAA TGGGGCCAAC CGAGACATGC 240
716
717 AGGACAACAA GGAAGAGACA CCTCTGTTTC TTGCTGCCCCG GGAGGAGCTA TAAGC 295
718
719
720 (2) INFORMATION FOR SEQ ID NO:8:
721
722 (i) SEQUENCE CHARACTERISTICS:
723 (A) LENGTH: 248 base pairs
724 (B) TYPE: nucleic acid
725 (C) STRANDEDNESS: double
726 (D) TOPOLOGY: unknown
727
728 (ii) MOLECULE TYPE: cDNA
729
730
731
732 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:
733
734 GAATTCCATT CAGGAGGAAA GGGTGGGGAG AGAAGCAGGC ACCCACTTTC CCGTGGCTGG 60
735
736 ACTCGTTCCC AGGTGGCTCC ACCGGCAGCT GTGACCGCCG CAGGTGGGGG CGGAGTGCCA 120
737
738 TTCAGAAAAT TCCAGAAAAG CCCTACCCCA ACTCGGACGG CAACGTCACA CCCGTGGGTA 180
739
740 GCAACTGGCA CACAAACAGC CAGCGTGTCT GGGGCACGGG GGGATGGCAC CCCCTGCAGG 240
741
742 CAGAGCTG 248
743
744 (2) INFORMATION FOR SEQ ID NO:9:
745
746 (i) SEQUENCE CHARACTERISTICS:
747 (A) LENGTH: 323 base pairs
748 (B) TYPE: nucleic acid
749 (C) STRANDEDNESS: double
750 (D) TOPOLOGY: unknown
751
752 (ii) MOLECULE TYPE: cDNA
753
754
755
756
757 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:
758
759 TACGTATCTC GAGCACAGAC AGCTGACGTA CACTTTTNA GTGCGAGGGA CATTCTGCCG 60
760
761 ACCAGTACGA ACATTTAGGC TCAGTACGGT AGGTCCATGG CCAAGACTAG GAGACGTAGG 120
762
763 GAGCTACAGG TCCCGCTCGC TAAACTCGGA CCACTGAAAC CTCCGGTCGA CAGTCGGTAA 180
764
765 GCGAACAAGA GGGCCAGATC TTAGAGAAGG TGTCGCGGCG AGACTCGGGC TCGGGTCAGG 240

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:09:20

INPUT SET: S7068.raw

766
767 CGGCCTTAAG GACGTCGGGC CCNNNAGGTG ATCAAGATCT CGNCNCGGCG GGCGCCACCT 300
768
769 CGAGGNCGAA AACAAGGGAA ATC 323
770
771
772 (2) INFORMATION FOR SEQ ID NO:10:
773
774 (i) SEQUENCE CHARACTERISTICS:
775 (A) LENGTH: 3234 base pairs
776 (B) TYPE: nucleic acid
777 (C) STRANDEDNESS: double
778 (D) TOPOLOGY: unknown
779
780 (ii) MOLECULE TYPE: cDNA
781
782
783 (ix) FEATURE:
784 (A) NAME/KEY: CDS
785 (B) LOCATION: 1..3234
786
787
788 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:
789
790 TGC CAG GAG GAC GCG GGC AAC AAG GTC TGC AGC CTG CAG TGC AAC AAC 48
791 Cys Gln Glu Asp Ala Gly Asn Lys Val Cys Ser Leu Gln Cys Asn Asn
792 1 5 10 15
793
794 CAC GCG TGC GGC TGG GAC GGC GGT GAC TGC TCC CTC AAC TTC AAT GAC 96
795 His Ala Cys Gly Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp
796 20 25 30
797
798 CCC TGG AAG AAC TGC ACG CAG TCT CTG CAG TGC TGG AAG TAC TTC AGT 144
799 Pro Trp Lys Asn Cys Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser
800 35 40 45
801
802 GAC GGC CAC TGT GAC AGC CAG TGC AAC TCA GCC GGC TGC CTC TTC GAC 192
803 Asp Gly His Cys Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp
804 50 55 60
805
806 GGC TTT GAC TGC CAG CGT GCG GAA GGC CAG TGC AAC CCC CTG TAC GAC 240
807 Gly Phe Asp Cys Gln Arg Ala Glu Gly Gln Cys Asn Pro Leu Tyr Asp
808 65 70 75 80
809
810 CAG TAC TGC AAG GAC CAC TTC AGC GAC GGG CAC TGC GAC CAG GGC TGC 288
811 Gln Tyr Cys Lys Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys
812 85 90 95
813
814 AAC AGC GCG GAG TGC GAG TGG GAC GGG CTG GAC TGT GCG GAG CAT GTA 336
815 Asn Ser Ala Glu Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val
816 100 105 110

INPUT SET: S7068.raw

817																		
818	CCC	GAG	AGG	CTG	GCG	GCC	GGC	ACG	CTG	GTG	GTG	GTG	GTG	CTG	ATG	CCG		384
819	Pro	Glu	Arg	Leu	Ala	Ala	Gly	Thr	Leu	Val	Val	Val	Val	Leu	Met	Pro		
820			115					120					125					
821																		
822	CCG	GAG	CAG	CTG	CGC	AAC	AGC	TCC	TTC	CAC	TTC	CTG	CGG	GAG	CTC	AGC		432
823	Pro	Glu	Gln	Leu	Arg	Asn	Ser	Ser	Phe	His	Phe	Leu	Arg	Glu	Leu	Ser		
824			130				135					140						
825																		
826	CGC	GTG	CTG	CAC	ACC	AAC	GTG	GTC	TTC	AAG	CGT	GAC	GCA	CAC	GGC	CAG		480
827	Arg	Val	Leu	His	Thr	Asn	Val	Val	Phe	Lys	Arg	Asp	Ala	His	Gly	Gln		
828						150					155					160		
829																		
830	CAG	ATG	ATC	TTC	CCC	TAC	TAC	GGC	CGC	GAG	GAG	GAG	CTG	CGC	AAG	CAC		528
831	Gln	Met	Ile	Phe	Pro	Tyr	Tyr	Gly	Arg	Glu	Glu	Glu	Leu	Arg	Lys	His		
832					165				170						175			
833																		
834	CCC	ATC	AAG	CGT	GCC	GCC	GAG	GGC	TGG	GCC	GCA	CCT	GAC	GCC	CTG	CTG		576
835	Pro	Ile	Lys	Arg	Ala	Ala	Glu	Gly	Trp	Ala	Ala	Pro	Asp	Ala	Leu	Leu		
836				180					185					190				
837																		
838	GGC	CAG	GTG	AAG	GCC	TCG	CTG	CTC	CCT	GGT	GGC	AGC	GAG	GGT	GGG	CGG		624
839	Gly	Gln	Val	Lys	Ala	Ser	Leu	Leu	Pro	Gly	Gly	Ser	Glu	Gly	Gly	Arg		
840			195					200					205					
841																		
842	CGG	CGG	AGG	GAG	CTG	GAC	CCC	ATG	GAC	GTC	CGC	GGC	TCC	ATC	GTC	TAC		672
843	Arg	Arg	Arg	Glu	Leu	Asp	Pro	Met	Asp	Val	Arg	Gly	Ser	Ile	Val	Tyr		
844			210				215					220						
845																		
846	CTG	GAG	ATT	GAC	AAC	CGG	CAG	TGT	GTG	CAG	GCC	TCC	TCG	CAG	TGC	TTC		720
847	Leu	Glu	Ile	Asp	Asn	Arg	Gln	Cys	Val	Gln	Ala	Ser	Ser	Gln	Cys	Phe		
848						230					235					240		
849																		
850	CAG	AGT	GCC	ACC	GAC	GTG	GCC	GCA	TTC	CTG	GGA	GCG	CTC	GCC	TCG	CTG		768
851	Gln	Ser	Ala	Thr	Asp	Val	Ala	Ala	Phe	Leu	Gly	Ala	Leu	Ala	Ser	Leu		
852					245				250						255			
853																		
854	GGC	AGC	CTC	AAC	ATC	CCC	TAC	AAG	ATC	GAG	GCC	GTG	CAG	AGT	GAG	ACC		816
855	Gly	Ser	Leu															

RAW SEQUENCE LISTING **PATENT APPLICATION US/08/083,590**

DATE: 12/16/93
 TIME: 13:09:33

INPUT SET: S7068.raw

868	305		310		315		320	
869								
870	AAA GTG TCT GAG GCC AGC AAG AAG AAG CGG CGG GAG CCC CTC GGC GAG	1008						
871	Lys Val Ser Glu Ala Ser Lys Lys Lys Arg Arg Glu Pro Leu Gly Glu							
872		325	330	335				
873								
874	GAC TCC GTG GGC CTC AAG CCC CTG AAG AAC GCT TCA GAC GGT GCC CTC	1056						
875	Asp Ser Val Gly Leu Lys Pro Leu Lys Asn Ala Ser Asp Gly Ala Leu							
876		340	345	350				
877								
878	ATG GAC GAC AAC CAG AAT GAG TGG GGG GAC GAG GAC CTG GAG ACC AAG	1104						
879	Met Asp Asp Asn Gln Asn Glu Trp Gly Asp Glu Asp Leu Glu Thr Lys							
880		355	360	365				
881								
882	AAG TTC CGG TTC GAG GAG CCC GTG GTT CTG CCT GAC CTG GAC GAC CAG	1152						
883	Lys Phe Arg Phe Glu Glu Pro Val Val Leu Pro Asp Leu Asp Asp Gln							
884		370	375	380				
885								
886	ACA GAC CAC CGG CAG TGG ACT CAG CAG CAC CTG GAT GCC GCT GAC CTG	1200						
887	Thr Asp His Arg Gln Trp Thr Gln Gln His Leu Asp Ala Ala Asp Leu							
888		385	390	395				
889				400				
890	CGC ATG TCT GCC ATG GCC CCC ACA CCG CCC CAG GGT GAG GTT GAC GCC	1248						
891	Arg Met Ser Ala Met Ala Pro Thr Pro Pro Gln Gly Glu Val Asp Ala							
892		405	410	415				
893								
894	GAC TGC ATG GAC GTC AAT GTC CGC GGG CCT GAT GGC TTC ACC CCG CTC	1296						
895	Asp Cys Met Asp Val Asn Val Arg Gly Pro Asp Gly Phe Thr Pro Leu							
896		420	425	430				
897								
898	ATG ATC GCC TCC TGC AGC GGG GGC GGC CTG GAG ACG GGC AAC AGC GAG	1344						
899	Met Ile Ala Ser Cys Ser Gly Gly Gly Leu Glu Thr Gly Asn Ser Glu							
900		435	440	445				
901								
902	GAA GAG GAG GAC GCG CCG GCC GTC ATC TCC GAC TTC ATC TAC CAG GGC	1392						
903	Glu Glu Glu Asp Ala Pro Ala Val Ile Ser Asp Phe Ile Tyr Gln Gly							
904		450	455	460				
905								
906	GCC AGC CTG CAC AAC CAG ACA GAC CGC ACG GGC GAG ACC GCC TTG CAC	1440						
907	Ala Ser Leu His Asn Gln Thr Asp Arg Thr Gly Glu Thr Ala Leu His							
908		465	470	475				
909				480				
910	CTG GCC GCC CGC TAC TCA CGC TCT GAT GCC GCC AAG CGC CTG CTG GAG	1488						
911	Leu Ala Ala Arg Tyr Ser Arg Ser Asp Ala Ala Lys Arg Leu Leu Glu							
912		485	490	495				
913								
914	GCC AGC GCA GAT GCC AAC ATC CAG GAC AAC ATG GGC CGC ACC CCG CTG	1536						
915	Ala Ser Ala Asp Ala Asn Ile Gln Asp Asn Met Gly Arg Thr Pro Leu							
916		500	505	510				
917								
918	CAT GCG GCT GTG TCT GCC GAC GCA CAA GGT GTC TTC CAG ATC CTG ATC	1584						

DATE: 12/16/93
TIME: 13:09:40

INPUT SET: S7068.raw

919	His	Ala	Ala	Val	Ser	Ala	Asp	Ala	Gln	Gly	Val	Phe	Gln	Ile	Leu	Ile	
920			515					520					525				
921																	
922	CGG	AAC	CGA	GCC	ACA	GAC	CTG	GAT	GCC	CGC	ATG	CAT	GAT	GGC	ACG	ACG	1632
923	Arg	Asn	Arg	Ala	Thr	Asp	Leu	Asp	Ala	Arg	Met	His	Asp	Gly	Thr	Thr	
924		530					535					540					
925																	
926	CCA	CTG	ATC	CTG	GCT	GCC	CGC	CTG	GCC	GTG	GAG	GGC	ATG	CTG	GAG	GAC	1680
927	Pro	Leu	Ile	Leu	Ala	Ala	Arg	Leu	Ala	Val	Glu	Gly	Met	Leu	Glu	Asp	
928		545				550					555					560	
929																	
930	CTC	ATC	AAC	TCA	CAC	GCC	GAC	GTC	AAC	GCC	GTA	GAT	GAC	CTG	GGC	AAG	1728
931	Leu	Ile	Asn	Ser	His	Ala	Asp	Val	Asn	Ala	Val	Asp	Asp	Leu	Gly	Lys	
932					565					570					575		
933																	
934	TCC	GCC	CTG	CAC	TGG	GCC	GCC	GCC	GTG	AAC	AAT	GTG	GAT	GCC	GCA	GTT	1776
935	Ser	Ala	Leu	His	Trp	Ala	Ala	Ala	Val	Asn	Asn	Val	Asp	Ala	Ala	Val	
936				580					585					590			
937																	
938	GTG	CTC	CTG	AAG	AAC	GGG	GCT	AAC	AAA	GAT	ATG	CAG	AAC	AAC	AGG	GAG	1824
939	Val	Leu	Leu	Lys	Asn	Gly	Ala	Asn	Lys	Asp	Met	Gln	Asn	Asn	Arg	Glu	
940			595					600					605				
941																	
942	GAG	ACA	CCC	CTG	TTT	CTG	GCC	GCC	CGG	GAG	GGC	AGC	TAC	GAG	ACC	GCC	1872
943	Glu	Thr	Pro	Leu	Phe	Leu	Ala	Ala	Arg	Glu	Gly	Ser	Tyr	Glu	Thr	Ala	
944		610					615					620					
945																	
946	AAG	GTG	CTG	CTG	GAC	CAC	TTT	GCC	AAC	CGG	GAC	ATC	ACG	GAT	CAT	ATG	1920
947	Lys	Val	Leu	Leu	Asp	His	Phe	Ala	Asn	Arg	Asp	Ile	Thr	Asp	His	Met	
948		625				630					635					640	
949																	
950	GAC	CGC	CTG	CCG	CGC	GAC	ATC	GCA	CAG	GAG	CGC	ATG	CAT	CAC	GAC	ATC	1968
951	Asp	Arg	Leu	Pro	Arg	Asp	Ile	Ala	Gln	Glu	Arg	Met	His	His	Asp	Ile	
952					645					650					655		
953																	
954	GTG	AGG	CTG	CTG	GAC	GAG	TAC	AAC	CTG	GTG	CGC	AGC	CCG	CAG	CTG	CAC	2016
955	Val	Arg	Leu	Leu	Asp	Glu	Tyr	Asn	Leu	Val	Arg	Ser	Pro	Gln	Leu	His	
956				660					665					670			
957																	
958	GGA	GCC	CCG	CTG	GGG	GGC	ACG										

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:09:46

INPUT SET: S7068.raw

970	AAG GAC CTC AAG GCA CGG AGG AAG AAG TCC CAG GAT GGC AAG GGC TGC	2208
971	Lys Asp Leu Lys Ala Arg Arg Lys Lys Ser Gln Asp Gly Lys Gly Cys	
972	725 730 735	
973		
974	CTG CTG GAC AGC TCC GGC ATG CTC TCG CCC GTG GAC TCC CTG GAG TCA	2256
975	Leu Leu Asp Ser Ser Gly Met Leu Ser Pro Val Asp Ser Leu Glu Ser	
976	740 745 750	
977		
978	CCC CAT GGC TAC CTG TCA GAC GTG GCC TCG CCG CCA CTG CTG CCC TCC	2304
979	Pro His Gly Tyr Leu Ser Asp Val Ala Ser Pro Pro Leu Leu Pro Ser	
980	755 760 765	
981		
982	CCG TTC CAG CAG TCT CCG TCC GTG CCC CTC AAC CAC CTG CCT GGG ATG	2352
983	Pro Phe Gln Gln Ser Pro Ser Val Pro Leu Asn His Leu Pro Gly Met	
984	770 775 780	
985		
986	CCC GAC ACC CAC CTG GGC ATC GGG CAC CTG AAC GTG GCG GCC AAG CCC	2400
987	Pro Asp Thr His Leu Gly Ile Gly His Leu Asn Val Ala Ala Lys Pro	
988	785 790 795 800	
989		
990	GAG ATG GCG GCG CTG GGT GGG GGC GGC CGG CTG GCC TTT GAG ACT GGC	2448
991	Glu Met Ala Ala Leu Gly Gly Gly Gly Arg Leu Ala Phe Glu Thr Gly	
992	805 810 815	
993		
994	CCA CCT CGT CTC TCC CAC CTG CCT GTG GCC TCT GGC ACC AGC ACC GTC	2496
995	Pro Pro Arg Leu Ser His Leu Pro Val Ala Ser Gly Thr Ser Thr Val	
996	820 825 830	
997		
998	CTG GGC TCC AGC AGC GGA GGG GCC CTG AAT TTC ACT GTG GGC GGG TCC	2544
999	Leu Gly Ser Ser Ser Gly Gly Ala Leu Asn Phe Thr Val Gly Gly Ser	
1000	835 840 845	
1001		
1002	ACC AGT TTG AAT GGT CAA TGC GAG TGG CTG TCC CGG CTG CAG AGC GGC	2592
1003	Thr Ser Leu Asn Gly Gln Cys Glu Trp Leu Ser Arg Leu Gln Ser Gly	
1004	850 855 860	
1005		
1006	ATG GTG CCG AAC CAA TAC AAC CCT CTG CGG GGG AGT GTG GCA CCA GGC	2640
1007	Met Val Pro Asn Gln Tyr Asn Pro Leu Arg Gly Ser Val Ala Pro Gly	
1008	865 870 875 880	
1009		
1010	CCC CTG AGC ACA CAG GCC CCC TCC CTG CAG CAT GGC ATG GTA GGC CCG	2688
1011	Pro Leu Ser Thr Gln Ala Pro Ser Leu Gln His Gly Met Val Gly Pro	
1012	885 890 895	
1013		
1014	CTG CAC AGT AGC CTT GCT GCC AGC GCC CTG TCC CAG ATG ATG AGC TAC	2736
1015	Leu His Ser Ser Leu Ala Ala Ser Ala Leu Ser Gln Met Met Ser Tyr	
1016	900 905 910	
1017		
1018	CAG GGC CTG CCC AGC ACC CGG CTG GCC ACC CAG CCT CAC CTG GTG CAG	2784
1019	Gln Gly Leu Pro Ser Thr Arg Leu Ala Thr Gln Pro His Leu Val Gln	
1020	915 920 925	

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:09:52

INPUT SET: S7068.raw

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1021
1022 ACC CAG CAG GTG CAG CCA CAA AAC TTA CAG ATG CAG CAG CAG AAC CTG      2832
1023 Thr Gln Gln Val Gln Pro Gln Asn Leu Gln Met Gln Gln Gln Asn Leu
1024      930                      935                      940
1025
1026 CAG CCA GCA AAC ATC CAG CAG CAG CAA AGC CTG CAG CCG CCA CCA CCA      2880
1027 Gln Pro Ala Asn Ile Gln Gln Gln Gln Ser Leu Gln Pro Pro Pro Pro
1028 945                      950                      955                      960
1029
1030 CCA CCA CAG CCG CAC CTT GGC GTG AGC TCA GCA GCC AGC GGC CAC CTG      2928
1031 Pro Pro Gln Pro His Leu Gly Val Ser Ser Ala Ala Ser Gly His Leu
1032                      965                      970                      975
1033
1034 GGC CGG AGC TTC CTG AGT GGA GAG CCG AGC CAG GCA GAC GTG CAG CCA      2976
1035 Gly Arg Ser Phe Leu Ser Gly Glu Pro Ser Gln Ala Asp Val Gln Pro
1036      980                      985                      990
1037
1038 CTG GGC CCC AGC AGC CTG GCG GTG CAC ACT ATT CTG CCC CAG GAG AGC      3024
1039 Leu Gly Pro Ser Ser Leu Ala Val His Thr Ile Leu Pro Gln Glu Ser
1040      995                      1000                      1005
1041
1042 CCC GCC CTG CCC ACG TCG CTG CCA TCC TCG CTG GTC CCA CCC GTG ACC      3072
1043 Pro Ala Leu Pro Thr Ser Leu Pro Ser Ser Ser Leu Val Pro Pro Val Thr
1044      1010                      1015                      1020
1045
1046 GCA GCC CAG TTC CTG ACG CCC CCC TCG CAG CAC AGC TAC TCC TCG CCT      3120
1047 Ala Ala Gln Phe Leu Thr Pro Pro Ser Gln His Ser Tyr Ser Ser Pro
1048 1025                      1030                      1035                      1040
1049
1050 GTG GAC AAC ACC CCC AGC CAC CAG CTA CAG GTG CCT GTT CCT GTA ATG      3168
1051 Val Asp Asn Thr Pro Ser His Gln Leu Gln Val Pro Val Pro Val Met
1052                      1045                      1050                      1055
1053
1054 GTA ATG ATC CGA TCT TCG GAT CCT TCT AAA GGC TCA TCA ATT TTG ATC      3216
1055 Val Met Ile Arg Ser Ser Asp Pro Ser Lys Gly Ser Ser Ile Leu Ile
1056      1060                      1065                      1070
1057
1058 GAA GCT CCC GAC TCA TGG      3234
1059 Glu Ala Pro Asp Ser Trp
1060      1075
1061
1062

```

(2) INFORMATION FOR SEQ ID NO:11:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 1078 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: protein

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:09:58

INPUT SET: S7068.raw

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1072      (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:
1073
1074      Cys Gln Glu Asp Ala Gly Asn Lys Val Cys Ser Leu Gln Cys Asn Asn
1075      1          5          10          15
1076
1077      His Ala Cys Gly Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp
1078      20          25          30
1079
1080      Pro Trp Lys Asn Cys Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser
1081      35          40          45
1082
1083      Asp Gly His Cys Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp
1084      50          55          60
1085
1086      Gly Phe Asp Cys Gln Arg Ala Glu Gly Gln Cys Asn Pro Leu Tyr Asp
1087      65          70          75          80
1088
1089      Gln Tyr Cys Lys Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys
1090      85          90          95
1091
1092      Asn Ser Ala Glu Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val
1093      100         105         110
1094
1095      Pro Glu Arg Leu Ala Ala Gly Thr Leu Val Val Val Val Leu Met Pro
1096      115         120         125
1097
1098      Pro Glu Gln Leu Arg Asn Ser Ser Phe His Phe Leu Arg Glu Leu Ser
1099      130         135         140
1100
1101      Arg Val Leu His Thr Asn Val Val Phe Lys Arg Asp Ala His Gly Gln
1102      145         150         155         160
1103
1104      Gln Met Ile Phe Pro Tyr Tyr Gly Arg Glu Glu Glu Leu Arg Lys His
1105      165         170         175
1106
1107      Pro Ile Lys Arg Ala Ala Glu Gly Trp Ala Ala Pro Asp Ala Leu Leu
1108      180         185         190
1109
1110      Gly Gln Val Lys Ala Ser Leu Leu Pro Gly Gly Ser Glu Gly Gly Arg
1111      195         200         205
1112
1113      Arg Arg Arg Glu Leu Asp Pro Met Asp Val Arg Gly Ser Ile Val Tyr
1114      210         215         220
1115
1116      Leu Glu Ile Asp Asn Arg Gln Cys Val Gln Ala Ser Ser Gln Cys Phe
1117      225         230         235         240
1118
1119      Gln Ser Ala Thr Asp Val Ala Ala Phe Leu Gly Ala Leu Ala Ser Leu
1120      245         250         255
1121
1122      Gly Ser Leu Asn Ile Pro Tyr Lys Ile Glu Ala Val Gln Ser Glu Thr

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RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590

 DATE: 12/16/93
 TIME: 13:10:05
INPUT SET: S7068.raw

1123		260		265		270	
1124							
1125	Val	Glu	Pro	Pro	Pro	Pro	Ala
1126							Gln
1127							Leu
1128	Ala	Ala	Phe	Val	Leu	Leu	Phe
1129							Val
1130							Gly
1131	Arg	Lys	Arg	Arg	Arg	Gln	His
1132							Gly
1133							Gln
1134	Lys	Val	Ser	Glu	Ala	Ser	Lys
1135							Lys
1136							Lys
1137	Asp	Ser	Val	Gly	Leu	Lys	Pro
1138							Leu
1139							Lys
1140	Met	Asp	Asp	Asn	Gln	Asn	Glu
1141							Trp
1142							Gly
1143	Lys	Phe	Arg	Phe	Glu	Glu	Pro
1144							Val
1145							Val
1146	Thr	Asp	His	Arg	Gln	Trp	Thr
1147							Gln
1148							Gln
1149	Arg	Met	Ser	Ala	Met	Ala	Pro
1150							Thr
1151							Pro
1152	Asp	Cys	Met	Asp	Val	Asn	Val
1153							Arg
1154							Gly
1155	Met	Ile	Ala	Ser	Cys	Ser	Gly
1156							Gly
1157							Gly
1158	Glu	Glu	Glu	Asp	Ala	Pro	Ala
1159							Val
1160							Ile
1161	Ala	Ser	Leu	His	Asn	Gln	Thr
1162							Asp
1163							Arg
1164	Leu	Ala	Ala	Arg	Tyr	Ser	Arg
1165							Ser
1166							Asp
1167	Ala	Ser	Ala	Asp	Ala	Asn	Ile
1168							Gln
1169							Asp
1170	His	Ala	Ala	Val	Ser	Ala	Asp
1171							Ala
1172							Gln
1173	Arg	Asn	Arg	Ala	Thr	Asp	Leu

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:10:11

INPUT SET: S7068.raw

1174	530	535	540
1175			
1176	Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu Gly Met Leu Glu Asp		
1177	545	550	555 560
1178			
1179	Leu Ile Asn Ser His Ala Asp Val Asn Ala Val Asp Asp Leu Gly Lys		
1180		565 570	575
1181			
1182	Ser Ala Leu His Trp Ala Ala Ala Val Asn Asn Val Asp Ala Ala Val		
1183		580 585	590
1184			
1185	Val Leu Leu Lys Asn Gly Ala Asn Lys Asp Met Gln Asn Asn Arg Glu		
1186		595 600	605
1187			
1188	Glu Thr Pro Leu Phe Leu Ala Ala Arg Glu Gly Ser Tyr Glu Thr Ala		
1189		610 615	620
1190			
1191	Lys Val Leu Leu Asp His Phe Ala Asn Arg Asp Ile Thr Asp His Met		
1192		625 630	635 640
1193			
1194	Asp Arg Leu Pro Arg Asp Ile Ala Gln Glu Arg Met His His Asp Ile		
1195		645 650	655
1196			
1197	Val Arg Leu Leu Asp Glu Tyr Asn Leu Val Arg Ser Pro Gln Leu His		
1198		660 665	670
1199			
1200	Gly Ala Pro Leu Gly Gly Thr Pro Thr Leu Ser Pro Pro Leu Cys Ser		
1201		675 680	685
1202			
1203	Pro Asn Gly Tyr Leu Gly Ser Leu Lys Pro Gly Val Gln Gly Lys Lys		
1204		690 695	700
1205			
1206	Val Arg Lys Pro Ser Ser Lys Gly Leu Ala Cys Gly Ser Lys Glu Ala		
1207		705 710	715 720
1208			
1209	Lys Asp Leu Lys Ala Arg Arg Lys Lys Ser Gln Asp Gly Lys Gly Cys		
1210		725 730	735
1211			
1212	Leu Leu Asp Ser Ser Gly Met Leu Ser Pro Val Asp Ser Leu Glu Ser		
1213		740 745	750
1214			
1215	Pro His Gly Tyr Leu Ser Asp Val Ala Ser Pro Pro Leu Leu Pro Ser		
1216		755 760	765
1217			
1218	Pro Phe Gln Gln Ser Pro Ser Val Pro Leu Asn His Leu Pro Gly Met		
1219		770 775	780
1220			
1221	Pro Asp Thr His Leu Gly Ile Gly His Leu Asn Val Ala Ala Lys Pro		
1222		785 790	795 800
1223			
1224	Glu Met Ala Ala Leu Gly Gly Gly Gly Arg Leu Ala Phe Glu Thr Gly		

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590

 DATE: 12/16/93
 TIME: 13:10:17
INPUT SET: S7068.raw

1225		805		810		815	
1226							
1227	Pro	Pro	Arg	Leu	Ser	His	Leu
1228				820			825
1229							830
1230	Leu	Gly	Ser	Ser	Ser	Gly	Gly
1231			835			840	
1232							845
1233	Thr	Ser	Leu	Asn	Gly	Gln	Cys
1234		850				855	
1235							860
1236	Met	Val	Pro	Asn	Gln	Tyr	Asn
1237	865				870		875
1238							880
1239	Pro	Leu	Ser	Thr	Gln	Ala	Pro
1240				885			890
1241							895
1242	Leu	His	Ser	Ser	Leu	Ala	Ala
1243			900			905	
1244							910
1245	Gln	Gly	Leu	Pro	Ser	Thr	Arg
1246			915			920	
1247							925
1248	Thr	Gln	Gln	Val	Gln	Pro	Gln
1249		930				935	
1250							940
1251	Gln	Pro	Ala	Asn	Ile	Gln	Gln
1252	945				950		955
1253							960
1254	Pro	Pro	Gln	Pro	His	Leu	Gly
1255				965			970
1256							975
1257	Gly	Arg	Ser	Phe	Leu	Ser	Gly
1258			980			985	
1259							990
1260	Leu	Gly	Pro	Ser	Ser	Leu	Ala
1261			995			1000	
1262							1005
1263	Pro	Ala	Leu	Pro	Thr	Ser	Leu
1264		1010				1015	
1265							1020
1266	Ala	Ala	Gln	Phe	Leu	Thr	Pro
1267	1025				1030		1035
1268							1040
1269	Val	Asp	Asn	Thr	Pro	Ser	His
1270				1045			1050
1271							1055
1272	Val	Met	Ile	Arg	Ser	Ser	Asp
1273			1060			1065	
1274							1070
1275	Glu	Ala	Pro	Asp	Ser	Trp	

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:10:24

INPUT SET: S7068.raw

1276 1075
1277
1278 (2) INFORMATION FOR SEQ ID NO:12:
1279
1280 (i) SEQUENCE CHARACTERISTICS:
1281 (A) LENGTH: 4268 base pairs
1282 (B) TYPE: nucleic acid
1283 (C) STRANDEDNESS: double
1284 (D) TOPOLOGY: unknown
1285
1286 (ii) MOLECULE TYPE: cDNA
1287
1288
1289 (ix) FEATURE:
1290 (A) NAME/KEY: CDS
1291 (B) LOCATION: 2..1972
1292
1293
1294 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:
1295
1296 G GAG GTG GAT GTG TTA GAT GTG AAT GTC CGT GGC CCA GAT GGC TGC 46
1297 Glu Val Asp Val Leu Asp Val Asn Val Arg Gly Pro Asp Gly Cys
1298 1 5 10 15
1299
1300 ACC CCA TTG ATG TTG GCT TCT CTC CGA GGA GGC AGC TCA GAT TTG AGT 94
1301 Thr Pro Leu Met Leu Ala Ser Leu Arg Gly Gly Ser Ser Asp Leu Ser
1302 20 25 30
1303
1304 GAT GAA GAT GAA GAT GCA GAG GAC TCT TCT GCT AAC ATC ATC ACA GAC 142
1305 Asp Glu Asp Glu Asp Ala Glu Asp Ser Ser Ala Asn Ile Ile Thr Asp
1306 35 40 45
1307
1308 TTG GTC TAC CAG GGT GCC AGC CTC CAG GCC CAG ACA GAC CGG ACT GGT 190
1309 Leu Val Tyr Gln Gly Ala Ser Leu Gln Ala Gln Thr Asp Arg Thr Gly
1310 50 55 60
1311
1312 GAG ATG GCC CTG CAC CTT GCA GCC CGC TAC TCA CGG GCT GAT GCT GCC 238
1313 Glu Met Ala Leu His Leu Ala Ala Arg Tyr Ser Arg Ala Asp Ala Ala
1314 65 70 75
1315
1316 AAG CGT CTC CTG GAT GCA GGT GCA GAT GCC AAT GCC CAG GAC AAC ATG 286
1317 Lys Arg Leu Leu Asp Ala Gly Ala Asp Ala Asn Ala Gln Asp Asn Met
1318 80 85 90 95
1319
1320 GGC CGC TGT CCA CTC CAT GCT GCA GTG GCA GCT GAT GCC CAA GGT GTC 334
1321 Gly Arg Cys Pro Leu His Ala Ala Val Ala Ala Asp Ala Gln Gly Val
1322 100 105 110
1323
1324 TTC CAG ATT CTG ATT CGC AAC CGA GTA ACT GAT CTA GAT GCC AGG ATG 382
1325 Phe Gln Ile Leu Ile Arg Asn Arg Val Thr Asp Leu Asp Ala Arg Met
1326 115 120 125

DATE: 12/16/93
TIME: 13:10:30

INPUT SET: S7068.raw

1327																		
1328	AAT	GAT	GGT	ACT	ACA	CCC	CTG	ATC	CTG	GCT	GCC	CGC	CTG	GCT	GTG	GAG		430
1329	Asn	Asp	Gly	Thr	Thr	Pro	Leu	Ile	Leu	Ala	Ala	Arg	Leu	Ala	Val	Glu		
1330			130					135					140					
1331																		
1332	GGA	ATG	GTG	GCA	GAA	CTG	ATC	AAC	TGC	CAA	GCG	GAT	GTG	AAT	GCA	GTG		478
1333	Gly	Met	Val	Ala	Glu	Leu	Ile	Asn	Cys	Gln	Ala	Asp	Val	Asn	Ala	Val		
1334		145					150					155						
1335																		
1336	GAT	GAC	CAT	GGA	AAA	TCT	GCT	CTT	CAC	TGG	GCA	GCT	GCT	GTC	AAT	AAT		526
1337	Asp	Asp	His	Gly	Lys	Ser	Ala	Leu	His	Trp	Ala	Ala	Ala	Val	Asn	Asn		
1338	160					165					170					175		
1339																		
1340	GTG	GAG	GCA	ACT	CTT	TTG	TTG	TTG	AAA	AAT	GGG	GCC	AAC	CGA	GAC	ATG		574
1341	Val	Glu	Ala	Thr	Leu	Leu	Leu	Leu	Lys	Asn	Gly	Ala	Asn	Arg	Asp	Met		
1342					180					185					190			
1343																		
1344	CAG	GAC	AAC	AAG	GAA	GAG	ACA	CCT	CTG	TTT	CTT	GCT	GCC	CGG	GAG	GGG		622
1345	Gln	Asp	Asn	Lys	Glu	Glu	Thr	Pro	Leu	Phe	Leu	Ala	Ala	Arg	Glu	Gly		
1346				195				200						205				
1347																		
1348	AGC	TAT	GAA	GCA	GCC	AAG	ATC	CTG	TTA	GAC	CAT	TTT	GCC	AAT	CGA	GAC		670
1349	Ser	Tyr	Glu	Ala	Ala	Lys	Ile	Leu	Leu	Asp	His	Phe	Ala	Asn	Arg	Asp		
1350			210					215					220					
1351																		
1352	ATC	ACA	GAC	CAT	ATG	GAT	CGT	CTT	CCC	CGG	GAT	GTG	GCT	CGG	GAT	CGC		718
1353	Ile	Thr	Asp	His	Met	Asp	Arg	Leu	Pro	Arg	Asp	Val	Ala	Arg	Asp	Arg		
1354		225					230					235						
1355																		
1356	ATG	CAC	CAT	GAC	ATT	GTG	CGC	CTT	CTG	GAT	GAA	TAC	AAT	GTG	ACC	CCA		766
1357	Met	His	His	Asp	Ile	Val	Arg	Leu	Leu	Asp	Glu	Tyr	Asn	Val	Thr	Pro		
1358	240					245					250					255		
1359																		
1360	AGC	CCT	CCA	GGC	ACC	GTG	TTG	ACT	TCT	GCT	CTC	TCA	CCT	GTC	ATC	TGT		814
1361	Ser	Pro	Pro	Gly	Thr	Val	Leu	Thr	Ser	Ala	Leu	Ser	Pro	Val	Ile	Cys		
1362					260					265					270			
1363																		
1364	GGG	CCC	AAC	AGA	TCT	TTC	CTC	AGC	CTG	AAG	CAC	ACC	CCA	ATG	GGC			

INPUT SET: S7068.raw

1378	320				325				330				335				
1379																	
1380	CCT	GTT	GAT	TCC	CTA	GAA	TCT	CCT	CAC	ACG	TAT	GTT	TCC	GAC	ACC	ACA	1054
1381	Pro	Val	Asp	Ser	Leu	Glu	Ser	Pro	His	Thr	Tyr	Val	Ser	Asp	Thr	Thr	
1382					340						345					350	
1383																	
1384	TCC	TCT	CCA	ATG	ATT	ACA	TCC	CCT	GGG	ATC	TTA	CAG	GCC	TCA	CCC	AAC	1102
1385	Ser	Ser	Pro	Met	Ile	Thr	Ser	Pro	Gly	Ile	Leu	Gln	Ala	Ser	Pro	Asn	
1386				355					360					365			
1387																	
1388	CCT	ATG	TTG	GCC	ACT	GCC	GCC	CCT	CCT	GCC	CCA	GTC	CAT	GCC	CAG	CAT	1150
1389	Pro	Met	Leu	Ala	Thr	Ala	Ala	Pro	Pro	Ala	Pro	Val	His	Ala	Gln	His	
1390			370					375					380				
1391																	
1392	GCA	CTA	TCT	TTT	TCT	AAC	CTT	CAT	GAA	ATG	CAG	CCT	TTG	GCA	CAT	GGG	1198
1393	Ala	Leu	Ser	Phe	Ser	Asn	Leu	His	Glu	Met	Gln	Pro	Leu	Ala	His	Gly	
1394		385					390					395					
1395																	
1396	GCC	AGC	ACT	GTG	CTT	CCC	TCA	GTG	AGC	CAG	TTG	CTA	TCC	CAC	CAC	CAC	1246
1397	Ala	Ser	Thr	Val	Leu	Pro	Ser	Val	Ser	Gln	Leu	Leu	Ser	His	His	His	
1398	400					405					410					415	
1399																	
1400	ATT	GTG	TCT	CCA	GGC	AGT	GGC	AGT	GCT	GGA	AGC	TTG	AGT	AGG	CTC	CAT	1294
1401	Ile	Val	Ser	Pro	Gly	Ser	Gly	Ser	Ala	Gly	Ser	Leu	Ser	Arg	Leu	His	
1402					420					425					430		
1403																	
1404	CCA	GTC	CCA	GTC	CCA	GCA	GAT	TGG	ATG	AAC	CGC	ATG	GAG	GTG	AAT	GAG	1342
1405	Pro	Val	Pro	Val	Pro	Ala	Asp	Trp	Met	Asn	Arg	Met	Glu	Val	Asn	Glu	
1406				435					440					445			
1407																	
1408	ACC	CAG	TAC	AAT	GAG	ATG	TTT	GGT	ATG	GTC	CTG	GCT	CCA	GCT	GAG	GGC	1390
1409	Thr	Gln	Tyr	Asn	Glu	Met	Phe	Gly	Met	Val	Leu	Ala	Pro	Ala	Glu	Gly	
1410			450					455					460				
1411																	
1412	ACC	CAT	CCT	GGC	ATA	GCT	CCC	CAG	AGC	AGG	CCA	CCT	GAA	GGG	AAG	CAC	1438
1413	Thr	His	Pro	Gly	Ile	Ala	Pro	Gln	Ser	Arg	Pro	Pro	Glu	Gly	Lys	His	
1414		465					470					475					
1415																	
1416	ATA	ACC	ACC	CCT	CGG	GAG	CCC	TTG	CCC	CCC	ATT	GTG	ACT	TTC	CAG	CTC	1486
1417	Ile	Thr	Thr	Pro	Arg	Glu	Pro	Leu	Pro	Pro	Ile	Val	Thr	Phe	Gln	Leu	
1418	480					485					490					495	
1419																	
1420	ATC	CCT	AAA	GGC	AGT	ATT	GCC	CAA	CCA	GCG	GGG	GCT	CCC	CAG	CCT	CAG	1534
1421	Ile	Pro	Lys	Gly													

INPUT SET: S7068.raw

1429	Ile	Pro	Glu	Met	Ala	Arg	Leu	Pro	Ser	Val	Ala	Phe	Pro	Thr	Ala	Met	
1430			530					535					540				
1431																	
1432	ATG	CCC	CAG	CAG	GAC	GGG	CAG	GTA	GCT	CAG	ACC	ATT	CTC	CCA	GCC	TAT	1678
1433	Met	Pro	Gln	Gln	Asp	Gly	Gln	Val	Ala	Gln	Thr	Ile	Leu	Pro	Ala	Tyr	
1434		545					550					555					
1435																	
1436	CAT	CCT	TTC	CCA	GCC	TCT	GTG	GGC	AAG	TAC	CCC	ACA	CCC	CCT	TCA	CAG	1726
1437	His	Pro	Phe	Pro	Ala	Ser	Val	Gly	Lys	Tyr	Pro	Thr	Pro	Pro	Ser	Gln	
1438	560					565					570					575	
1439																	
1440	CAC	AGT	TAT	GCT	TCC	TCA	AAT	GCT	GCT	GAG	CGA	ACA	CCC	AGT	CAC	AGT	1774
1441	His	Ser	Tyr	Ala	Ser	Ser	Asn	Ala	Ala	Glu	Arg	Thr	Pro	Ser	His	Ser	
1442					580					585					590		
1443																	
1444	GGT	CAC	CTC	CAG	GGT	GAG	CAT	CCC	TAC	CTG	ACA	CCA	TCC	CCA	GAG	TCT	1822
1445	Gly	His	Leu	Gln	Gly	Glu	His	Pro	Tyr	Leu	Thr	Pro	Ser	Pro	Glu	Ser	
1446				595					600					605			
1447																	
1448	CCT	GAC	CAG	TGG	TCA	AGT	TCA	TCA	CCC	CAC	TCT	GCT	TCT	GAC	TGG	TCA	1870
1449	Pro	Asp	Gln	Trp	Ser	Ser	Ser	Ser	Pro	His	Ser	Ala	Ser	Asp	Trp	Ser	
1450			610					615					620				
1451																	
1452	GAT	GTG	ACC	ACC	AGC	CCT	ACC	CCT	GGG	GGT	GCT	GGA	GGA	GGT	CAG	CGG	1918
1453	Asp	Val	Thr	Thr	Ser	Pro	Thr	Pro	Gly	Gly	Ala	Gly	Gly	Gly	Gln	Arg	
1454		625					630					635					
1455																	
1456	GGA	CCT	GGG	ACA	CAC	ATG	TCT	GAG	CCA	CCA	CAC	AAC	AAC	ATG	CAG	GTT	1966
1457	Gly	Pro	Gly	Thr	His	Met	Ser	Glu	Pro	Pro	His	Asn	Asn	Met	Gln	Val	
1458	640					645					650				655		
1459																	
1460	TAT	GCG	TGAGAGAGTC			CACCTCCAGT		GTAGAGACAT		AACTGACTTT		TGTAATGCT					2022
1461	Tyr	Ala															
1462																	
1463																	
1464	GCTGAGGAAC		AAATGAAGGT			CATCCGGGAG		AGAAATGAAG		AAATCTCTGG		AGCCAGCTTC					2082
1465																	
1466	TAGAGGTAGG		AAAGAGAAGA			TGTTCTTATT		CAGATAATGC		AAGAGAAGCA		ATTCGTCAGT					2142
1467																	
1468	TTCACTGGGT		ATCTGCAAGG			CTTATTGATT		ATTCTAATCT		AATAAGACAA		GTTTGTGGAA					

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:10:49

INPUT SET: S7068.raw

1480	CTTTGTGCTT	TTGATCATT	TGGCCCATGA	AAGCAACTTT	GGTCTCCTTT	CCCCTCCTGT	2562
1481							
1482	CTTCCCGGTA	TCCCTTGGAG	TCTCACAAGG	TTTACTTTGG	TATGGTTCTC	AGCACAAACC	2622
1483							
1484	TTTCAAGTAT	GTTGTTTCTT	TGGAAAATGG	ACATACTGTA	TTGTGTTCTC	CTGCATATAT	2682
1485							
1486	CATTCTGGA	GAGAGAAGGG	GAGAAGAATA	CTTTTCTTCA	ACAAATTTTG	GGGGCAGGAG	2742
1487							
1488	ATCCCTTCAA	GAGGCTGCAC	CTTAATTTTT	CTTGTCTGTG	TGCAGGTCTT	CATATAAACT	2802
1489							
1490	TTACCAGGAA	GAAGGGTGTG	AGTTTGTGTG	TTTTCTGTGT	ATGGGCCTGG	TCAGTGTAATA	2862
1491							
1492	GTTTTATCCT	TGATAGTCTA	GTTACTATGA	CCCTCCCCAC	TTTTTTAAAA	CCAGAAAAAG	2922
1493							
1494	GTTTGAATG	TTGGAATGAC	CAAGAGACAA	GTTAACTCGT	GCAAGAGCCA	GTTACCCACC	2982
1495							
1496	CACAGGTCCC	CCTACTTCCT	GCCAAGCATT	CCATTGACTG	CCTGTATGGA	ACACATTTGT	3042
1497							
1498	CCCAGATCTG	AGCATTCTAG	GCCTGTTTCA	CTCACTCACC	CAGCATATGA	AACTAGTCTT	3102
1499							
1500	AACTGTTGAG	CCTTTCCCTT	CATATCCACA	GAAGACACTG	TCTCAAATGT	TGTACCCCTG	3162
1501							
1502	CCATTTAGGA	CTGAACCTTC	CTTAGCCCCA	GGGACCCAGT	GACAGTTGTC	TTCCGTTTGT	3222
1503							
1504	CAGATGATCA	GTCTCTACTG	ATTATCTTGC	TGCTTAAAGG	CCTGCTCACC	AATCTTTCTT	3282
1505							
1506	TCACACCGTG	TGGTCCGTGT	TACTGGTATA	CCCAGTATGT	TCTCACTGAA	GACATGGACT	3342
1507							
1508	TTATATGTTT	AAGTGCAGGA	ATTGGAAAGT	TGGACTTGTT	TTCTATGATC	CAAAACAGCC	3402
1509							
1510	CTATAAGAAG	GTTGGAAAAG	GAGGAACTAT	ATAGCAGCCT	TTGCTATTTT	CTGCTACCAT	3462
1511							
1512	TTCTTTTCCT	CTGAAGCGGC	CATGACATTC	CCTTTGGCAA	CTAACGTAGA	AACTCAACAG	3522
1513							
1514	AACATTTTCC	TTTCCTAGAG	TCACCTTTTA	GATGATAATG	GACAACTATA	GACTTGCTCA	3582
1515							
1516	TTGTTTCTAG	TGATTGCCCC	TCACCTGAAT	CCACTCTCTG	TATTCATGCT	CTTGGCAATT	3642
1517							
1518	TCTTTGACTT	TCTTTTAAGG	GCAGAAGCAT	TTTAGTTAAT	TGTAGATAAA	GAATAGTTTT	3702
1519							
1520	CTTCCTCTTC	TCCTTGGGCC	AGTTAATAAT	TGGTCCATGG	CTCACTGCA	ACTTCCGTCC	3762
1521							
1522	AGTGCTGTGA	TGCCCATGAC	ACCTGCAAAA	TAAGTTCTGC	CTGGGCATTT	TGTAGATATT	3822
1523							
1524	AACAGGTGAA	TTCCCGACTC	TTTTGGTTTG	AATGACAGTT	CTCATTCCTT	CTATGGCTGC	3882
1525							
1526	AAGTATGCAT	CAGTGCTTCC	CACCTTACCTG	ATTTGTCTGT	CGGTGGCCCC	ATATGGAAAC	3942
1527							
1528	CCTGCGTGTC	TGTTGGCATA	ATAGTTTACA	AATGGTTTTT	TCAGTCCTAT	CCAAATTTAT	4002
1529							
1530	TGAACCAACA	AAAATAATTA	CTTCTGCCCT	GAGATAAGCA	GATTAAGTTT	GTTTATTCTC	4062

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:10:55

INPUT SET: S7068.raw

1531
1532 TGCTTTATTC TCTCCATGTG GCAACATTCT GTCAGCCTCT TTCATAGTGT GCAAACATTT 4122
1533
1534 TATCATTCTA AATGGTGACT CTCTGCCCTT GGACCCATTT ATTATTCACA GATGGGGAGA 4182
1535
1536 ACCTATCTGC ATGGACCCTC ACCATCCTCT GTGCAGCACA CACAGTGCAG GGAGCCAGTG 4242
1537
1538 GCGATGGCGA TGACTTTCTT CCCCTG 4268
1539
1540
1541 (2) INFORMATION FOR SEQ ID NO:13:
1542
1543 (i) SEQUENCE CHARACTERISTICS:
1544 (A) LENGTH: 657 amino acids
1545 (B) TYPE: amino acid
1546 (D) TOPOLOGY: unknown
1547
1548 (ii) MOLECULE TYPE: protein
1549
1550 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:
1551
1552 Glu Val Asp Val Leu Asp Val Asn Val Arg Gly Pro Asp Gly Cys Thr
1553 1 5 10 15
1554
1555 Pro Leu Met Leu Ala Ser Leu Arg Gly Gly Ser Ser Asp Leu Ser Asp
1556 20 25 30
1557
1558 Glu Asp Glu Asp Ala Glu Asp Ser Ser Ala Asn Ile Ile Thr Asp Leu
1559 35 40 45
1560
1561 Val Tyr Gln Gly Ala Ser Leu Gln Ala Gln Thr Asp Arg Thr Gly Glu
1562 50 55 60
1563
1564 Met Ala Leu His Leu Ala Ala Arg Tyr Ser Arg Ala Asp Ala Ala Lys
1565 65 70 75 80
1566
1567 Arg Leu Leu Asp Ala Gly Ala Asp Ala Asn Ala Gln Asp Asn Met Gly
1568 85 90 95
1569
1570 Arg Cys Pro Leu His Ala Ala Val Ala Ala Asp Ala Gln Gly Val Phe
1571 100 105 110
1572
1573 Gln Ile Leu Ile Arg Asn Arg Val Thr Asp Leu Asp Ala Arg Met Asn
1574 115 120 125
1575
1576 Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg Leu Ala Val Glu Gly
1577 130 135 140
1578
1579 Met Val Ala Glu Leu Ile Asn Cys Gln Ala Asp Val Asn Ala Val Asp
1580 145 150 155 160
1581

RAW SEQUENCE LISTING **PATENT APPLICATION US/08/083,590**

DATE: 12/16/93
 TIME: 13:11:02

INPUT SET: S7068.raw

```

1582  Asp His Gly Lys Ser Ala Leu His Trp Ala Ala Ala Val Asn Asn Val
1583              165              170              175
1584
1585  Glu Ala Thr Leu Leu Leu Leu Lys Asn Gly Ala Asn Arg Asp Met Gln
1586              180              185              190
1587
1588  Asp Asn Lys Glu Glu Thr Pro Leu Phe Leu Ala Ala Arg Glu Gly Ser
1589              195              200              205
1590
1591  Tyr Glu Ala Ala Lys Ile Leu Leu Asp His Phe Ala Asn Arg Asp Ile
1592              210              215              220
1593
1594  Thr Asp His Met Asp Arg Leu Pro Arg Asp Val Ala Arg Asp Arg Met
1595  225              230              235              240
1596
1597  His His Asp Ile Val Arg Leu Leu Asp Glu Tyr Asn Val Thr Pro Ser
1598              245              250              255
1599
1600  Pro Pro Gly Thr Val Leu Thr Ser Ala Leu Ser Pro Val Ile Cys Gly
1601              260              265              270
1602
1603  Pro Asn Arg Ser Phe Leu Ser Leu Lys His Thr Pro Met Gly Lys Lys
1604              275              280              285
1605
1606  Ser Arg Arg Pro Ser Ala Lys Ser Thr Met Pro Thr Ser Leu Pro Asn
1607              290              295              300
1608
1609  Leu Ala Lys Glu Ala Lys Asp Ala Lys Gly Ser Arg Arg Lys Lys Ser
1610  305              310              315              320
1611
1612  Leu Ser Glu Lys Val Gln Leu Ser Glu Ser Ser Val Thr Leu Ser Pro
1613              325              330              335
1614
1615  Val Asp Ser Leu Glu Ser Pro His Thr Tyr Val Ser Asp Thr Thr Ser
1616              340              345              350
1617
1618  Ser Pro Met Ile Thr Ser Pro Gly Ile Leu Gln Ala Ser Pro Asn Pro
1619              355              360              365
1620
1621  Met Leu Ala Thr Ala Ala Pro Pro Ala Pro Val His Ala Gln His Ala
1622              370              375              380
1623
1624  Leu Ser Phe Ser Asn Leu His Glu Met Gln Pro Leu Ala His Gly Ala
1625  385              390              395              400
1626
1627  Ser Thr Val Leu Pro Ser Val Ser Gln Leu Leu Ser His His His Ile
1628              405              410              415
1629
1630  Val Ser Pro Gly Ser Gly Ser Ala Gly Ser Leu Ser Arg Leu His Pro
1631              420              425              430
1632

```


RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:11:08

INPUT SET: S7068.raw

```

1633 Val Pro Val Pro Ala Asp Trp Met Asn Arg Met Glu Val Asn Glu Thr
1634           435                      440                      445
1635
1636 Gln Tyr Asn Glu Met Phe Gly Met Val Leu Ala Pro Ala Glu Gly Thr
1637           450                      455                      460
1638
1639 His Pro Gly Ile Ala Pro Gln Ser Arg Pro Pro Glu Gly Lys His Ile
1640           465                      470                      475                      480
1641
1642 Thr Thr Pro Arg Glu Pro Leu Pro Pro Ile Val Thr Phe Gln Leu Ile
1643           485                      490                      495
1644
1645 Pro Lys Gly Ser Ile Ala Gln Pro Ala Gly Ala Pro Gln Pro Gln Ser
1646           500                      505                      510
1647
1648 Thr Cys Pro Pro Ala Val Ala Gly Pro Leu Pro Thr Met Tyr Gln Ile
1649           515                      520                      525
1650
1651 Pro Glu Met Ala Arg Leu Pro Ser Val Ala Phe Pro Thr Ala Met Met
1652           530                      535                      540
1653
1654 Pro Gln Gln Asp Gly Gln Val Ala Gln Thr Ile Leu Pro Ala Tyr His
1655           545                      550                      555                      560
1656
1657 Pro Phe Pro Ala Ser Val Gly Lys Tyr Pro Thr Pro Pro Ser Gln His
1658           565                      570                      575
1659
1660 Ser Tyr Ala Ser Ser Asn Ala Ala Glu Arg Thr Pro Ser His Ser Gly
1661           580                      585                      590
1662
1663 His Leu Gln Gly Glu His Pro Tyr Leu Thr Pro Ser Pro Glu Ser Pro
1664           595                      600                      605
1665
1666 Asp Gln Trp Ser Ser Ser Ser Pro His Ser Ala Ser Asp Trp Ser Asp
1667           610                      615                      620
1668
1669 Val Thr Thr Ser Pro Thr Pro Gly Gly Ala Gly Gly Gly Gln Arg Gly
1670           625                      630                      635                      640
1671
1672 Pro Gly Thr His Met Ser Glu Pro Pro His Asn Asn Met Gln Val Tyr
1673           645                      650                      655
1674
1675 Ala
1676
1677

```

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 77 amino acids

(B) TYPE: amino acid

(C) STRANDEDNESS: single

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:11:14

INPUT SET: S7068.raw

1684 (D) TOPOLOGY: unknown
1685
1686 (ii) MOLECULE TYPE: peptide
1687
1688
1689
1690 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:
1691
1692 Glu Asp Ile Asp Glu Cys Asp Gln Gly Ser Pro Cys Glu His Asn Gly
1693 1 5 10 15
1694
1695 Ile Cys Val Asn Thr Pro Gly Ser Tyr Arg Cys Asn Cys Ser Gln Gly
1696 20 25 30
1697
1698 Phe Thr Gly Pro Arg Cys Glu Thr Asn Ile Asn Glu Cys Glu Ser His
1699 35 40 45
1700
1701 Pro Cys Gln Asn Glu Gly Ser Cys Leu Asp Asp Pro Gly Thr Phe Arg
1702 50 55 60
1703
1704 Cys Val Cys Met Pro Gly Phe Thr Gly Thr Gln Cys Glu
1705 65 70 75
1706
1707 (2) INFORMATION FOR SEQ ID NO:15:
1708
1709 (i) SEQUENCE CHARACTERISTICS:
1710 (A) LENGTH: 78 amino acids
1711 (B) TYPE: amino acid
1712 (C) STRANDEDNESS: single
1713 (D) TOPOLOGY: unknown
1714
1715 (ii) MOLECULE TYPE: peptide
1716
1717
1718
1719 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:
1720
1721 Asn Asp Val Asp Glu Cys Ser Leu Gly Ala Asn Pro Cys Glu His Gly
1722 1 5 10 15
1723
1724 Gly Arg Cys Thr Asn Thr Leu Gly Ser Phe Gln Cys Asn Cys Pro Gln
1725 20 25 30
1726
1727 Gly Tyr Ala Gly Pro Arg Cys Glu Ile Asp Val Asn Glu Cys Leu Ser
1728 35 40 45
1729
1730 Asn Pro Cys Gln Asn Asp Ser Thr Cys Leu Asp Gln Ile Gly Glu Phe
1731 50 55 60
1732
1733 Gln Cys Ile Cys Met Pro Gly Tyr Glu Gly Leu Tyr Cys Glu
1734 65 70 75

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590DATE: 12/16/93
TIME: 13:11:20

INPUT SET: S7068.raw

1735
1736
1737 (2) INFORMATION FOR SEQ ID NO:16:
1738
1739 (i) SEQUENCE CHARACTERISTICS:
1740 (A) LENGTH: 654 amino acids
1741 (B) TYPE: amino acid
1742 (C) STRANDEDNESS: single
1743 (D) TOPOLOGY: unknown
1744
1745 (ii) MOLECULE TYPE: peptide
1746
1747
1748
1749
1750 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:
1751
1752 Thr Pro Pro Gln Gly Glu Ile Glu Ala Asp Cys Met Asp Val Asn Val
1753 1 5 10 15
1754
1755 Arg Gly Pro Asp Gly Phe Thr Pro Leu Met Ile Ala Ser Cys Ser Gly
1756 20 25 30
1757
1758 Gly Gly Leu Glu Thr Gly Asn Ser Glu Glu Glu Glu Asp Ala Ser Ala
1759 35 40 45
1760
1761 Asn Met Ile Ser Asp Phe Ile Gly Gln Gly Ala Gln Leu His Asn Gln
1762 50 55 60
1763
1764 Thr Asp Arg Thr Gly Glu Thr Ala Leu His Leu Ala Ala Arg Tyr Ala
1765 65 70 75 80
1766
1767 Arg Ala Asp Ala Ala Lys Arg Leu Leu Glu Ser Ser Ala Asp Ala Asn
1768 85 90 95
1769
1770 Val Gln Asp Asn Met Gly Arg Thr Pro Leu His Ala Ala Val Ala Ala
1771 100 105 110
1772
1773 Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn Arg Ala Thr Asp
1774 115 120 125
1775
1776 Leu Asp Ala Arg Met Phe Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala
1777 130 135 140
1778
1779 Arg Leu Ala Val Glu Gly Met Val Glu Glu Leu Ile Asn Ala His Ala
1780 145 150 155 160
1781
1782 Asp Val Asn Ala Val Asp Glu Phe Gly Lys Ser Ala Leu His Trp Ala
1783 165 170 175
1784
1785 Ala Ala Val Asn Asn Val Asp Ala Ala Ala Val Leu Leu Lys Asn Ser

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590

 DATE: 12/16/93
 TIME: 13:11:27

INPUT SET: S7068.raw

1786		180		185		190	
1787							
1788	Ala	Asn	Lys	Asp	Met	Gln	Asn
1789			195			200	
1790							205
1791	Ala	Ala	Arg	Glu	Gly	Ser	Tyr
1792		210				215	
1793							220
1794	Tyr	Ala	Asn	Arg	Asp	Ile	Thr
1795	225					230	
1796							235
1797	Ile	Ala	Gln	Glu	Arg	Met	His
1798					245		250
1799							255
1800	Tyr	Asn	Leu	Val	Lys	Ser	Pro
1801			260				265
1802							270
1803	Thr	Thr	Leu	Ser	Pro	Pro	Ile
1804			275				280
1805							285
1806	Met	Lys	Pro	Ser	Val	Gln	Ser
1807		290				295	
1808							300
1809	Gly	Asn	Gly	Cys	Lys	Glu	Ala
1810	305					310	
1811							315
1812	Ser	Gln	Asp	Gly	Lys	Thr	Thr
1813					325		330
1814							335
1815	Leu	Ser	Pro	Val	Asp	Ser	Leu
1816			340				345
1817							350
1818	Val	Ser	Ser	Pro	Pro	Leu	Met
1819			355				360
1820							365
1821	Met	Pro	Leu	Asn	His	Leu	Thr
1822		370					375
1823							380
1824	Asn	His	Ile	Asn	Met	Ala	Thr
1825	385					390	
1826							395
1827	Arg	Met	Ala	Phe	Asp	Ala	Met
1828					405		410
1829							415
1830	Ser	Ser	Pro	Asn	Thr	Ile	Met
1831			420				425
1832							430
1833	Gly	Gly	Ala	Pro	Thr	Met	Asn
1834			435				440
1835							445
1836	Gln	Asn	Gly	Met	Val	Gln	Asn

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:11:34

INPUT SET: S7068.raw

1837	450	455	460
1838			
1839	Gln Gln Gly Asn Ala Gln Gln Ala Gln Ala Leu Gln His Gly Leu Met		
1840	465	470	475 480
1841			
1842	Thr Ser Leu His Asn Gly Leu Pro Ala Thr Thr Leu Ser Gln Met Met		
1843		485	490 495
1844			
1845	Thr Tyr Gln Ala Met Pro Asn Thr Arg Leu Ala Asn Gln Pro His Leu		
1846		500	505 510
1847			
1848	Met Gln Ala Gln Gln Met Gln Gln Gln Gln Asn Leu Gln Leu His Gln		
1849		515	520 525
1850			
1851	Ser Met Gln Gln Gln His His Asn Ser Ser Thr Thr Ser Thr His Ile		
1852		530	535 540
1853			
1854	Asn Ser Pro Phe Cys Ser Ser Asp Ile Ser Gln Thr Asp Leu Gln Gln		
1855		545	550 555 560
1856			
1857	Met Ser Ser Asn Asn Ile His Ser Val Met Pro Gln Asp Thr Gln Ile		
1858		565	570 575
1859			
1860	Phe Ala Ala Ser Leu Pro Ser Asn Leu Thr Gln Ser Met Thr Thr Ala		
1861		580	585 590
1862			
1863	Gln Phe Leu Thr Pro Pro Ser Gln His Ser Tyr Ser Ser Pro Met Asp		
1864		595	600 605
1865			
1866	Asn Thr Pro Ser His Gln Leu Gln Val Pro Asp His Pro Phe Leu Thr		
1867		610	615 620
1868			
1869	Pro Ser Pro Glu Ser Pro Asp Gln Trp Ser Ser Ser Ser Pro His Ser		
1870		625	630 635 640
1871			
1872	Asn Met Ser Asp Trp Ser Glu Gly Ile Ser Ser Pro Pro Thr		
1873		645	650
1874			

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 666 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

RAW SEQUENCE LISTING PATENT APPLICATION *US/08/083,590*

DATE: 12/16/93
TIME: 13:11:41

INPUT SET: S7068.raw

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1888
1889   Thr Pro Pro Gln Gly Glu Val Asp Ala Asp Cys Met Asp Val Asn Val
1890   1          5          10          15
1891
1892   Arg Gly Pro Asp Gly Phe Thr Pro Leu Met Ile Ala Ser Cys Ser Gly
1893          20          25          30
1894
1895   Gly Gly Leu Glu Thr Gly Asn Ser Glu Glu Glu Glu Asp Ala Pro Ala
1896          35          40          45
1897
1898   Val Ile Ser Asp Phe Ile Tyr Gln Gly Ala Ser Leu His Asn Gln Thr
1899          50          55          60
1900
1901   Asp Arg Thr Gly Glu Thr Ala Leu His Leu Ala Ala Arg Tyr Ser Arg
1902   65          70          75          80
1903
1904   Ser Asp Ala Ala Lys Arg Leu Leu Glu Ala Ser Ala Asp Ala Asn Ile
1905          85          90          95
1906
1907   Gln Asp Asn Met Gly Arg Thr Pro Leu His Ala Ala Val Ser Ala Asp
1908          100          105          110
1909
1910   Ala Gln Gly Val Phe Gln Ile Leu Leu Arg Asn Arg Ala Thr Asp Leu
1911          115          120          125
1912
1913   Asp Ala Arg Met His Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg
1914          130          135          140
1915
1916   Leu Ala Val Glu Gly Met Leu Glu Asp Leu Ile Asn Ser His Ala Asp
1917   145          150          155          160
1918
1919   Val Asn Ala Val Asp Asp Leu Gly Lys Ser Ala Leu His Trp Ala Ala
1920          165          170          175
1921
1922   Ala Val Asn Asn Val Asp Ala Ala Val Val Leu Leu Lys Asn Gly Ala
1923          180          185          190
1924
1925   Asn Lys Asp Met Gln Asn Asn Lys Glu Glu Thr Pro Leu Phe Leu Ala
1926          195          200          205
1927
1928   Ala Arg Glu Gly Ser Tyr Glu Thr Ala Lys Val Leu Leu Asp His Phe
1929          210          215          220
1930
1931   Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp Ile
1932   225          230          235          240
1933
1934   Ala Gln Glu Arg Met His His Asp Ile Val Arg Leu Leu Asp Glu Tyr
1935          245          250          255
1936
1937   Asn Leu Val Arg Ser Pro Gln Leu His Gly Thr Ala Leu Gly Gly Thr
1938          260          265          270

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RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:11:48

INPUT SET: S7068.raw

1939	
1940	Pro Thr Leu Ser Pro Thr Leu Cys Ser Pro Asn Gly Tyr Leu Gly Asn
1941	275 280 285
1942	
1943	Leu Lys Ser Ala Thr Gln Gly Lys Lys Ala Arg Lys Pro Ser Thr Lys
1944	290 295 300
1945	
1946	Gly Leu Ala Cys Ser Ser Lys Glu Ala Lys Asp Leu Lys Ala Arg Arg
1947	305 310 315 320
1948	
1949	Lys Lys Ser Gln Asp Gly Lys Gly Cys Leu Leu Asp Ser Ser Ser Met
1950	325 330 335
1951	
1952	Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His Gly Tyr Leu Ser Asp
1953	340 345 350
1954	
1955	Val Ala Ser Pro Pro Leu Pro Ser Pro Phe Gln Gln Ser Pro Ser Met
1956	355 360 365
1957	
1958	Pro Leu Ser His Leu Pro Gly Met Pro Asp Thr His Leu Gly Ile Ser
1959	370 375 380
1960	
1961	His Leu Asn Val Ala Ala Lys Pro Glu Met Ala Ala Leu Ala Gly Gly
1962	385 390 395 400
1963	
1964	Ser Arg Leu Ala Phe Glu Pro Pro Pro Pro Arg Leu Ser His Leu Pro
1965	405 410 415
1966	
1967	Val Ala Ser Ser Ala Ser Thr Val Leu Ser Thr Asn Gly Thr Gly Ala
1968	420 425 430
1969	
1970	Met Asn Phe Thr Val Gly Ala Pro Ala Ser Leu Asn Gly Gln Cys Glu
1971	435 440 445
1972	
1973	Trp Leu Pro Arg Leu Gln Asn Gly Met Val Pro Ser Gln Tyr Asn Pro
1974	450 455 460
1975	
1976	Leu Arg Pro Gly Val Thr Pro Gly Thr Leu Ser Thr Gln Ala Ala Gly
1977	465 470 475 480
1978	
1979	Leu Gln His Gly Met Met Ser Pro Ile His Ser Ser Leu Ser Thr Asn
1980	485 490 495
1981	
1982	Thr Leu Ser Pro Ile Ile Tyr Gln Gly Leu Pro Asn Thr Arg Leu Ala
1983	500 505 510
1984	
1985	Thr Gln Pro His Leu Val Gln Thr Gln Gln Val Gln Pro Gln Asn Leu
1986	515 520 525
1987	
1988	Gln Ile Gln Pro Gln Asn Leu Gln Pro Pro Ser Gln Pro His Leu Ser
1989	530 535 540

INPUT SET: S7068.raw

1990																
1991	Val	Ser	Ser	Ala	Ala	Asn	Gly	His	Leu	Gly	Arg	Ser	Phe	Leu	Ser	Gly
1992	545					550					555					560
1993																
1994	Glu	Pro	Ser	Gln	Ala	Asp	Val	Gln	Pro	Leu	Gly	Pro	Ser	Ser	Leu	Pro
1995					565					570					575	
1996																
1997	Val	His	Thr	Ile	Leu	Pro	Gln	Glu	Ser	Gln	Ala	Leu	Pro	Thr	Ser	Leu
1998				580					585					590		
1999																
2000	Pro	Ser	Ser	Met	Val	Pro	Pro	Met	Thr	Thr	Thr	Gln	Phe	Leu	Thr	Pro
2001			595					600					605			
2002																
2003	Pro	Ser	Gln	His	Ser	Tyr	Ser	Ser	Ser	Pro	Val	Asp	Asn	Thr	Pro	Ser
2004		610					615					620				
2005																
2006	His	Gln	Leu	Gln	Val	Pro	Glu	His	Pro	Phe	Leu	Thr	Pro	Ser	Pro	Glu
2007	625					630					635					640
2008																
2009	Ser	Pro	Asp	Gln	Trp	Ser	Ser	Ser	Ser	Arg	His	Ser	Asn	Ile	Ser	Asp
2010					645					650					655	
2011																
2012	Trp	Ser	Glu	Gly	Ile	Ser	Ser	Pro	Pro	Thr						
2013				660					665							

(2) INFORMATION FOR SEO ID NO:18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 681 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

[illegible]

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:12:01

INPUT SET: S7068.raw

2041	Asp Arg Thr Gly Glu Thr Ala Leu His Leu Ala Ala Arg Tyr Ser Arg
2042	65 70 75 80
2043	
2044	Ser Asp Ala Ala Lys Arg Leu Leu Glu Ala Ser Ala Asp Ala Asn Ile
2045	85 90 95
2046	
2047	Gln Asp Asn Met Gly Arg Thr Pro Leu His Ala Ala Val Ser Ala Asp
2048	100 105 110
2049	
2050	Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn Arg Ala Thr Asp Leu
2051	115 120 125
2052	
2053	Asp Ala Arg Met His Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala Arg
2054	130 135 140
2055	
2056	Leu Ala Val Glu Gly Met Leu Glu Asp Leu Ile Asn Ser His Ala Asp
2057	145 150 155 160
2058	
2059	Val Asn Ala Val Asp Asp Leu Gly Lys Ser Ala Leu His Trp Ala Ala
2060	165 170 175
2061	
2062	Ala Val Asn Asn Val Asp Ala Ala Val Val Leu Leu Lys Asn Gly Ala
2063	180 185 190
2064	
2065	Asn Lys Asp Met Gln Asn Asn Arg Glu Glu Thr Pro Leu Phe Leu Ala
2066	195 200 205
2067	
2068	Ala Arg Glu Gly Ser Tyr Glu Thr Ala Lys Val Leu Leu Asp His Phe
2069	210 215 220
2070	
2071	Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg Leu Pro Arg Asp Ile
2072	225 230 235 240
2073	
2074	Ala Gln Glu Arg Met His His Asp Ile Val Arg Leu Leu Asp Glu Tyr
2075	245 250 255
2076	
2077	Asn Leu Val Arg Ser Pro Gln Leu His Gly Ala Pro Leu Gly Gly Thr
2078	260 265 270
2079	
2080	Pro Thr Leu Ser Pro Pro Leu Cys Ser Pro Asn Gly Tyr Leu Gly Ser
2081	275 280 285
2082	
2083	Leu Lys Pro Gly Val Gln Gly Lys Lys Val Arg Lys Pro Ser Ser Lys
2084	290 295 300
2085	
2086	Gly Leu Ala Cys Gly Ser Lys Glu Ala Lys Asp Leu Lys Ala Arg Arg
2087	305 310 315 320
2088	
2089	Lys Lys Ser Gln Asp Gly Lys Gly Cys Leu Leu Asp Ser Ser Gly Met
2090	325 330 335
2091	

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
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INPUT SET: S7068.raw

2092	Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His Gly Tyr Leu Ser Asp
2093	340 345 350
2094	
2095	Val Ala Ser Pro Pro Leu Leu Pro Ser Pro Phe Gln Gln Ser Pro Ser
2096	355 360 365
2097	
2098	Val Pro Leu Asn His Leu Pro Gly Met Pro Asp Thr His Leu Gly Ile
2099	370 375 380
2100	
2101	Gly His Leu Asn Val Ala Ala Lys Pro Glu Met Ala Ala Leu Gly Gly
2102	385 390 395 400
2103	
2104	Gly Gly Arg Leu Ala Phe Glu Thr Gly Pro Pro Arg Leu Ser His Leu
2105	405 410 415
2106	
2107	Pro Val Ala Ser Gly Thr Ser Thr Val Leu Gly Ser Ser Ser Gly Gly
2108	420 425 430
2109	
2110	Ala Leu Asn Phe Thr Val Gly Gly Ser Thr Ser Leu Asn Gly Gln Cys
2111	435 440 445
2112	
2113	Glu Trp Leu Ser Arg Leu Gln Ser Gly Met Val Pro Asn Gln Tyr Asn
2114	450 455 460
2115	
2116	Pro Leu Arg Gly Ser Val Ala Pro Gly Pro Leu Ser Thr Gln Ala Pro
2117	465 470 475 480
2118	
2119	Ser Leu Gln His Gly Met Val Gly Pro Leu His Ser Ser Leu Ala Ala
2120	485 490 495
2121	
2122	Ser Ala Leu Ser Gln Met Met Ser Tyr Gln Gly Leu Pro Ser Thr Arg
2123	500 505 510
2124	
2125	Leu Ala Thr Gln Pro His Leu Val Gln Thr Gln Gln Val Gln Pro Gln
2126	515 520 525
2127	
2128	Asn Leu Gln Met Gln Gln Gln Asn Leu Gln Pro Ala Asn Ile Gln Gln
2129	530 535 540
2130	
2131	Gln Gln Ser Leu Gln Pro Pro Pro Pro Pro Gln Pro His Leu Gly
2132	545 550 555 560
2133	
2134	Val Ser Ser Ala Ala Ser Gly His Leu Gly Arg Ser Phe Leu Ser Gly
2135	565 570 575
2136	
2137	Glu Pro Ser Gln Ala Asp Val Gln Pro Leu Gly Pro Ser Ser Leu Ala
2138	580 585 590
2139	
2140	Val His Thr Ile Leu Pro Gln Glu Ser Pro Ala Leu Pro Thr Ser Leu
2141	595 600 605
2142	

RAW SEQUENCE LISTING **PATENT APPLICATION US/08/083,590**

DATE: 12/16/93
 TIME: 13:12:15

INPUT SET: S7068.raw

```

2143   Pro Ser Ser Leu Val Pro Pro Val Thr Ala Ala Gln Phe Leu Thr Pro
2144           610                      615                      620
2145
2146   Pro Ser Gln His Ser Tyr Ser Ser Pro Val Glu Asn Thr Pro Ser His
2147   625                      630                      635                      640
2148
2149   Gln Leu Gln Val Pro Glu His Pro Phe Leu Thr Pro Ser Pro Glu Ser
2150           645                      650                      655
2151
2152   Pro Asp Gln Trp Ser Ser Ser Ser Pro His Ser Asn Val Ser Asp Trp
2153           660                      665                      670
2154
2155   Ser Glu Gly Val Ser Ser Pro Pro Thr
2156           675                      680
2157

```

(2) INFORMATION FOR SEQ ID NO:19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2471 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

```

2170
2171
2172   Met Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala Leu Leu Ala Leu Trp
2173   1                      5                      10                      15
2174
2175   Leu Cys Cys Ala Ala Pro Ala His Ala Leu Gln Cys Arg Asp Gly Tyr
2176           20                      25                      30
2177
2178   Glu Pro Cys Val Asn Glu Gly Met Cys Val Thr Tyr His Asn Gly Thr
2179           35                      40                      45
2180
2181   Gly Tyr Cys Lys Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys Gln His
2182           50                      55                      60
2183
2184   Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr Cys Val
2185   65                      70                      75                      80
2186
2187   Ala Gln Ala Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Ser Gly Phe
2188           85                      90                      95
2189
2190   Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe Val Ser
2191           100                     105                     110
2192
2193   Arg Pro Cys Leu Asn Gly Gly Thr Cys His Met Leu Ser Arg Asp Thr

```

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:12:22

INPUT SET: S7068.raw

2194		115		120		125											
2195																	
2196	Tyr	Glu	Cys	Thr	Cys	Gln	Val	Gly	Phe	Thr	Gly	Lys	Glu	Cys	Gln	Trp	
2197		130					135					140					
2198																	
2199	Thr	Asp	Ala	Cys	Leu	Ser	His	Pro	Cys	Ala	Asn	Gly	Ser	Thr	Cys	Thr	
2200	145					150					155					160	
2201																	
2202	Thr	Val	Ala	Asn	Gln	Phe	Ser	Cys	Lys	Cys	Leu	Thr	Gly	Phe	Thr	Gly	
2203					165						170					175	
2204																	
2205	Gln	Lys	Cys	Glu	Thr	Asp	Val	Asn	Glu	Cys	Asp	Ile	Pro	Gly	His	Cys	
2206				180					185					190			
2207																	
2208	Gln	His	Gly	Gly	Thr	Cys	Leu	Asn	Leu	Pro	Gly	Ser	Tyr	Gln	Cys	Gln	
2209			195					200					205				
2210																	
2211	Cys	Pro	Gln	Gly	Phe	Thr	Gly	Gln	Tyr	Cys	Asp	Ser	Leu	Tyr	Val	Pro	
2212		210					215					220					
2213																	
2214	Cys	Ala	Pro	Ser	Pro	Cys	Val	Asn	Gly	Gly	Thr	Cys	Arg	Gln	Thr	Gly	
2215	225					230					235					240	
2216																	
2217	Asp	Phe	Thr	Phe	Glu	Cys	Asn	Cys	Leu	Pro	Gly	Phe	Glu	Gly	Ser	Thr	
2218					245					250					255		
2219																	
2220	Cys	Glu	Arg	Asn	Ile	Asp	Asp	Cys	Pro	Asn	His	Arg	Cys	Gln	Asn	Gly	
2221				260					265					270			
2222																	
2223	Gly	Val	Cys	Val	Asp	Gly	Val	Asn	Thr	Tyr	Asn	Cys	Arg	Cys	Pro	Pro	
2224			275					280					285				
2225																	
2226	Gln	Trp	Thr	Gly	Gln	Phe	Cys	Thr	Glu	Asp	Val	Asp	Glu	Cys	Leu	Leu	
2227		290					295					300					
2228																	
2229	Gln	Pro	Asn	Ala	Cys	Gln	Asn	Gly	Gly	Thr	Cys	Ala	Asn	Arg	Asn	Gly	
2230	305					310					315					320	
2231																	
2232	Gly	Tyr	Gly	Cys	Val	Cys	Val	Asn	Gly	Trp	Ser	Gly	Asp	Asp	Cys	Ser	
2233					325					330					335		
2234																	
2235	Glu	Asn	Ile	Asp	Asp	Cys	Ala	Phe	Ala	Ser	Cys	Thr	Pro	Gly	Ser	Thr	
2236				340					345					350			
2237																	
2238	Cys	Ile	Asp	Arg	Val	Ala	Ser	Phe	Ser	Cys	Met	Cys	Pro	Glu	Gly	Lys	
2239			355					360					365				
2240																	
2241	Ala	Gly	Leu	Leu	Cys	His	Leu	Asp	Asp	Ala	Cys	Ile	Ser	Asn	Pro	Cys	
2242		370					375					380					
2243																	
2244	His	Lys	Gly	Ala	Leu	Cys	Asp	Thr	Asn	Pro	Leu	Asn	Gly	Gln	Tyr	Ile	

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590

 DATE: 12/16/93
 TIME: 13:12:28
INPUT SET: S7068.raw

2245	385		390		395		400
2246							
2247	Cys Thr Cys Pro Gln Gly Tyr Lys Gly Ala Asp Cys Thr Glu Asp Val						
2248		405		410		415	
2249							
2250	Asp Glu Cys Ala Met Ala Asn Ser Asn Pro Cys Glu His Ala Gly Lys						
2251		420		425		430	
2252							
2253	Cys Val Asn Thr Asp Gly Ala Phe His Cys Glu Cys Leu Lys Gly Tyr						
2254		435		440		445	
2255							
2256	Ala Gly Pro Arg Cys Glu Met Asp Ile Asn Glu Cys His Ser Asp Pro						
2257		450		455		460	
2258							
2259	Cys Gln Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe Thr Cys						
2260		465		470		475	480
2261							
2262	Leu Cys Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu Ile Asn						
2263		485		490		495	
2264							
2265	Glu Cys Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val Asp Lys						
2266		500		505		510	
2267							
2268	Val Asn Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly Pro Val						
2269		515		520		525	
2270							
2271	Cys Gln Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu Asn Gly						
2272		530		535		540	
2273							
2274	Ala Lys Cys Ile Asp His Pro Asn Gly Tyr Glu Cys Gln Cys Ala Thr						
2275		545		550		555	560
2276							
2277	Gly Phe Thr Gly Val Leu Cys Glu Glu Asn Ile Asp Asn Cys Asp Pro						
2278		565		570		575	
2279							
2280	Asp Pro Cys His His Gly Gln Cys Gln Asp Gly Ile Asp Ser Tyr Thr						
2281		580		585		590	
2282							
2283	Cys Ile Cys Asn Pro Gly Tyr Met Gly Ala Ile Cys Ser Asp Gln Ile						
2284		595		600		605	
2285							
2286	Asp Glu Cys Tyr Ser Ser Pro Cys Leu Asn Asp Gly Arg Cys Ile Asp						
2287		610		615		620	
2288							
2289	Leu Val Asn Gly Tyr Gln Cys Asn Cys Gln Pro Gly Thr Ser Gly Val						
2290		625		630		635	640
2291							
2292	Asn Cys Glu Ile Asn Phe Asp Asp Cys Ala Ser Asn Pro Cys Ile His						
2293		645		650		655	
2294							
2295	Gly Ile Cys Met Asp Gly Ile Asn Arg Tyr Ser Cys Val Cys Ser Pro						

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:12:35

INPUT SET: S7068.raw

2296		660		665		670	
2297							
2298	Gly	Phe	Thr	Gly	Gln	Arg	Cys
2299			675			680	
2300							685
2301	Asn	Pro	Cys	Arg	Lys	Gly	Ala
2302		690				695	
2303							700
2304	Arg	Cys	Ile	Cys	Pro	Glu	Gly
2305	705				710		
2306							715
2307	Val	Asn	Glu	Cys	Leu	Ser	Asn
2308				725			730
2309							735
2310	Gly	Leu	Ser	Gly	Tyr	Lys	Cys
2311			740				745
2312							750
2313	Asn	Cys	Glu	Val	Asp	Lys	Asn
2314		755					760
2315							765
2316	Gly	Gly	Thr	Cys	Asp	Asn	Leu
2317	770					775	
2318							780
2319	Lys	Gly	Phe	Lys	Gly	Tyr	Asn
2320	785				790		
2321							795
2322	Ser	Asn	Pro	Cys	Leu	Asn	Gln
2323				805			810
2324							815
2325	Tyr	Thr	Cys	His	Cys	Val	Leu
2326				820			825
2327							830
2328	Val	Leu	Ala	Pro	Cys	Ser	Pro
2329		835					840
2330							845
2331	Lys	Glu	Ser	Pro	Asn	Phe	Glu
2332	850					855	
2333							860
2334	Trp	Gln	Gly	Gln	Arg	Cys	Thr
2335	865				870		
2336							875
2337	Pro	Cys	Met	Asn	His	Gly	Leu
2338				885			890
2339							895
2340	Cys	Glu	Cys	Pro	Pro	Gly	Phe
2341			900				905
2342							910
2343	Asp	Asp	Cys	Leu	Ala	Asn	Pro
2344		915				920	
2345							925
2346	Gly	Val	Asn	Thr	Phe	Ser	Cys

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:12:42

INPUT SET: S7068.raw

2347	930	935	940
2348			
2349	Lys Cys Gln Thr Asp Met Asn Glu Cys Leu Ser Glu Pro Cys Lys Asn		
2350	945	950	955 960
2351			
2352	Gly Gly Thr Cys Ser Asp Tyr Val Asn Ser Tyr Thr Cys Lys Cys Gln		
2353		965	970 975
2354			
2355	Ala Gly Phe Asp Gly Val His Cys Glu Asn Asn Ile Asn Glu Cys Thr		
2356		980	985 990
2357			
2358	Glu Ser Ser Cys Phe Asn Gly Gly Thr Cys Val Asp Gly Ile Asn Ser		
2359		995	1000 1005
2360			
2361	Phe Ser Cys Leu Cys Pro Val Gly Phe Thr Gly Ser Phe Cys Leu His		
2362		1010	1015 1020
2363			
2364	Glu Ile Asn Glu Cys Ser Ser His Pro Cys Leu Asn Glu Gly Thr Cys		
2365		1025	1030 1035 1040
2366			
2367	Val Asp Gly Leu Gly Thr Tyr Arg Cys Ser Cys Pro Leu Gly Tyr Thr		
2368		1045	1050 1055
2369			
2370	Gly Lys Asn Cys Gln Thr Leu Val Asn Leu Cys Ser Arg Ser Pro Cys		
2371		1060	1065 1070
2372			
2373	Lys Asn Lys Gly Thr Cys Val Gln Lys Lys Ala Glu Ser Gln Cys Leu		
2374		1075	1080 1085
2375			
2376	Cys Pro Ser Gly Trp Ala Gly Ala Tyr Cys Asp Val Pro Asn Val Ser		
2377		1090	1095 1100
2378			
2379	Cys Asp Ile Ala Ala Ser Arg Arg Gly Val Leu Val Glu His Leu Cys		
2380		1105	1110 1115 1120
2381			
2382	Gln His Ser Gly Val Cys Ile Asn Ala Gly Asn Thr His Tyr Cys Gln		
2383		1125	1130 1135
2384			
2385	Cys Pro Leu Gly Tyr Thr Gly Ser Tyr Cys Glu Glu Gln Leu Asp Glu		
2386		1140	1145 1150
2387			
2388	Cys Ala Ser Asn Pro Cys Gln His Gly Ala Thr Cys Ser Asp Phe Ile		
2389		1155	1160 1165
2390			
2391	Gly Gly Tyr Arg Cys Glu Cys Val Pro Gly Tyr Gln Gly Val Asn Cys		
2392		1170	1175 1180
2393			
2394	Glu Tyr Glu Val Asp Glu Cys Gln Asn Gln Pro Cys Gln Asn Gly Gly		
2395		1185	1190 1195 1200
2396			
2397	Thr Cys Ile Asp Leu Val Asn His Phe Lys Cys Ser Cys Pro Pro Gly		

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:12:49

INPUT SET: S7068.raw

2398		1205		1210		1215
2399						
2400	Thr Arg Gly Leu Leu Cys Glu Glu Asn Ile Asp Asp Cys Ala Arg Gly					
2401		1220		1225		1230
2402						
2403	Pro His Cys Leu Asn Gly Gly Gln Cys Met Asp Arg Ile Gly Gly Tyr					
2404		1235		1240		1245
2405						
2406	Ser Cys Arg Cys Leu Pro Gly Phe Ala Gly Glu Arg Cys Glu Gly Asp					
2407		1250		1255		1260
2408						
2409	Ile Asn Glu Cys Leu Ser Asn Pro Cys Ser Ser Glu Gly Ser Leu Asp					
2410		1265		1270		1275
2411						
2412	Cys Ile Gln Leu Thr Asn Asp Tyr Leu Cys Val Cys Arg Ser Ala Phe					
2413		1285		1290		1295
2414						
2415	Thr Gly Arg His Cys Glu Thr Phe Val Asp Val Cys Pro Gln Met Pro					
2416		1300		1305		1310
2417						
2418	Cys Leu Asn Gly Gly Thr Cys Ala Val Ala Ser Asn Met Pro Asp Gly					
2419		1315		1320		1325
2420						
2421	Phe Ile Cys Arg Cys Pro Pro Gly Phe Ser Gly Ala Arg Cys Gln Ser					
2422		1330		1335		1340
2423						
2424	Ser Cys Gly Gln Val Lys Cys Arg Lys Gly Glu Gln Cys Val His Thr					
2425		1345		1350		1355
2426						
2427	Ala Ser Gly Pro Arg Cys Phe Cys Pro Ser Pro Arg Asp Cys Glu Ser					
2428		1365		1370		1375
2429						
2430	Gly Cys Ala Ser Ser Pro Cys Gln His Gly Gly Ser Cys His Pro Gln					
2431		1380		1385		1390
2432						
2433	Arg Gln Pro Pro Tyr Tyr Ser Cys Gln Cys Ala Pro Pro Phe Ser Gly					
2434		1395		1400		1405
2435						
2436	Ser Arg Cys Glu Leu Tyr Thr Ala Pro Pro Ser Thr Pro Pro Ala Thr					
2437		1410		1415		1420
2438						
2439	Cys Leu Ser Gln Tyr Cys Ala Asp Lys Ala Arg Asp Gly Val Cys Asp					
2440		1425		1430		1435
2441						
2442	Glu Ala Cys Asn Ser His Ala Cys Gln Trp Asp Gly Gly Asp Cys Ser					
2443		1445		1450		1455
2444						
2445	Leu Thr Met Glu Asn Pro Trp Ala Asn Cys Ser Ser Pro Leu Pro Cys					
2446		1460		1465		1470
2447						
2448	Trp Asp Tyr Ile Asn Asn Gln Cys Asp Glu Leu Cys Asn Thr Val Glu					

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:12:55

INPUT SET: S7068.raw

2449	1475	1480	1485
2450			
2451	Cys Leu Phe Asp Asn Phe Glu Cys Gln Gly Asn Ser Lys Thr Cys Lys		
2452	1490	1495	1500
2453			
2454	Tyr Asp Lys Tyr Cys Ala Asp His Phe Lys Asp Asn His Cys Asn Gln		
2455	1505	1510	1515 1520
2456			
2457	Gly Cys Asn Ser Glu Glu Cys Gly Trp Asp Gly Leu Asp Cys Ala Ala		
2458	1525	1530	1535
2459			
2460	Asp Gln Pro Glu Asn Leu Ala Glu Gly Thr Leu Val Ile Val Val Leu		
2461	1540	1545	1550
2462			
2463	Met Pro Pro Glu Gln Leu Leu Gln Asp Ala Arg Ser Phe Leu Arg Ala		
2464	1555	1560	1565
2465			
2466	Leu Gly Thr Leu Leu His Thr Asn Leu Arg Ile Lys Arg Asp Ser Gln		
2467	1570	1575	1580
2468			
2469	Gly Glu Leu Met Val Tyr Pro Tyr Tyr Gly Glu Lys Ser Ala Ala Met		
2470	1585	1590	1595 1600
2471			
2472	Lys Lys Gln Arg Met Thr Arg Arg Ser Leu Pro Gly Glu Gln Glu Gln		
2473	1605	1610	1615
2474			
2475	Glu Val Ala Gly Ser Lys Val Phe Leu Glu Ile Asp Asn Arg Gln Cys		
2476	1620	1625	1630
2477			
2478	Val Gln Asp Ser Asp His Cys Phe Lys Asn Thr Asp Ala Ala Ala Ala		
2479	1635	1640	1645
2480			
2481	Leu Leu Ala Ser His Ala Ile Gln Gly Thr Leu Ser Tyr Pro Leu Val		
2482	1650	1655	1660
2483			
2484	Ser Val Val Ser Glu Ser Leu Thr Pro Glu Arg Thr Gln Leu Leu Tyr		
2485	1665	1670	1675 1680
2486			
2487	Leu Leu Ala Val Ala Val Val Ile Ile Leu Phe Ile Ile Leu Leu Gly		
2488	1685	1690	1695
2489			
2490	Val Ile Met Ala Lys Arg Lys Arg Lys His Gly Ser Leu Trp Leu Pro		
2491	1700	1705	1710
2492			
2493	Glu Gly Phe Thr Leu Arg Arg Asp Ala Ser Asn His Lys Arg Arg Glu		
2494	1715	1720	1725
2495			
2496	Pro Val Gly Gln Asp Ala Val Gly Leu Lys Asn Leu Ser Val Gln Val		
2497	1730	1735	1740
2498			
2499	Ser Glu Ala Asn Leu Ile Gly Thr Gly Thr Ser Glu His Trp Val Asp		

RAW SEQUENCE LISTING PATENT APPLICATION *US/08/083,590*

DATE: 12/16/93
TIME: 13:13:01

INPUT SET: S7068.raw

2500	1745	1750	1755	1760
2501				
2502	Asp Glu Gly Pro Gln Pro Lys Lys Val Lys Ala Glu Asp Glu Ala Leu			
2503	1765	1770	1775	
2504				
2505	Leu Ser Glu Glu Asp Asp Pro Ile Asp Arg Arg Pro Trp Thr Gln Gln			
2506	1780	1785	1790	
2507				
2508	His Leu Glu Ala Ala Asp Ile Arg Arg Thr Pro Ser Leu Ala Leu Thr			
2509	1795	1800	1805	
2510				
2511	Pro Pro Gln Ala Glu Gln Glu Val Asp Val Leu Asp Val Asn Val Arg			
2512	1810	1815	1820	
2513				
2514	Gly Pro Asp Gly Cys Thr Pro Leu Met Leu Ala Ser Leu Arg Gly Gly			
2515	1825	1830	1835	1840
2516				
2517	Ser Ser Asp Leu Ser Asp Glu Asp Glu Asp Ala Glu Asp Ser Ser Ala			
2518	1845	1850	1855	
2519				
2520	Asn Ile Ile Thr Asp Leu Val Tyr Gln Gly Ala Ser Leu Gln Ala Gln			
2521	1860	1865	1870	
2522				
2523	Thr Asp Arg Thr Gly Glu Met Ala Leu His Leu Ala Ala Arg Tyr Ser			
2524	1875	1880	1885	
2525				
2526	Arg Ala Asp Ala Ala Lys Arg Leu Leu Asp Ala Gly Ala Asp Ala Asn			
2527	1890	1895	1900	
2528				
2529	Ala Gln Asp Asn Met Gly Arg Cys Pro Leu His Ala Ala Val Ala Ala			
2530	1905	1910	1915	1920
2531				
2532	Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn Arg Val Thr Asp			
2533	1925	1930	1935	
2534				
2535	Leu Asp Ala Arg Met Asn Asp Gly Thr Thr Pro Leu Ile Leu Ala Ala			
2536	1940	1945	1950	
2537				
2538	Arg Leu Ala Val Glu Gly Met Val Ala Glu Leu Ile Asn Cys Gln Ala			
2539	1955	1960	1965	
2540				
2541	Asp Val Asn Ala Val Asp Asp His Gly Lys Ser Ala Leu His Trp Ala			
2542	1970	1975	1980	
2543				
2544	Ala Ala Val Asn Asn Val Glu Ala Thr Leu Leu Leu Leu Lys Asn Gly			
2545	1985	1990	1995	2000
2546				
2547	Ala Asn Arg Asp Met Gln Asp Asn Lys Glu Glu Thr Pro Leu Phe Leu			
2548	2005	2010	2015	
2549				
2550	Ala Ala Arg Glu Gly Ser Tyr Glu Ala Ala Lys Ile Leu Leu Asp His			

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590

 DATE: 12/16/93
 TIME: 13:13:08
INPUT SET: S7068.raw

	2020	2025	2030
2551			
2552			
2553	Phe Ala Asn Arg Asp Ile Thr	Asp His Met Asp Arg	Leu Pro Arg Asp
2554	2035	2040	2045
2555			
2556	Val Ala Arg Asp Arg Met His His	Asp Ile Val Arg	Leu Leu Asp Glu
2557	2050	2055	2060
2558			
2559	Tyr Asn Val Thr Pro Ser Pro Pro	Gly Thr Val Leu Thr Ser Ala Leu	
2560	2065	2070	2075 2080
2561			
2562	Ser Pro Val Ile Cys Gly Pro Asn Arg	Ser Phe Leu Ser Leu Lys His	
2563	2085	2090	2095
2564			
2565	Thr Pro Met Gly Lys Lys Ser Arg Arg	Pro Ser Ala Lys Ser Thr Met	
2566	2100	2105	2110
2567			
2568	Pro Thr Ser Leu Pro Asn Leu Ala Lys	Glu Ala Lys Asp Ala Lys Gly	
2569	2115	2120	2125
2570			
2571	Ser Arg Arg Lys Lys Ser Leu Ser Glu	Lys Val Gln Leu Ser Glu Ser	
2572	2130	2135	2140
2573			
2574	Ser Val Thr Leu Ser Pro Val Asp Ser	Leu Glu Ser Pro His Thr Tyr	
2575	2145	2150	2155 2160
2576			
2577	Val Ser Asp Thr Thr Ser Ser Pro Met	Ile Thr Ser Pro Gly Ile Leu	
2578	2165	2170	2175
2579			
2580	Gln Ala Ser Pro Asn Pro Met Leu Ala	Thr Ala Ala Pro Pro Ala Pro	
2581	2180	2185	2190
2582			
2583	Val His Ala Gln His Ala Leu Ser Phe	Ser Asn Leu His Glu Met Gln	
2584	2195	2200	2205
2585			
2586	Pro Leu Ala His Gly Ala Ser Thr Val	Leu Pro Ser Val Ser Gln Leu	
2587	2210	2215	2220
2588			
2589	Leu Ser His His His Ile Val Ser Pro	Gly Ser Gly Ser Ala Gly Ser	
2590	2225	2230	2235 2240
2591			
2592	Leu Ser Arg Leu His Pro Val Pro Val	Pro Ala Asp Trp Met Asn Arg	
2593	2245	2250	2255
2594			
2595	Met Glu Val Asn Glu Thr Gln Tyr Asn	Glu Met Phe Gly Met Val Leu	
2596	2260	2265	2270
2597			
2598	Ala Pro Ala Glu Gly Thr His Pro Gly	Ile Ala Pro Gln Ser Arg Pro	
2599	2275	2280	2285
2600			
2601	Pro Glu Gly Lys His Ile Thr Thr Pro	Arg Glu Pro Leu Pro Pro Ile	

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:13:15

INPUT SET: S7068.raw

```

2602          2290          2295          2300
2603
2604 Val Thr Phe Gln Leu Ile Pro Lys Gly Ser Ile Ala Gln Pro Ala Gly
2605 2305          2310          2315          2320
2606
2607 Ala Pro Gln Pro Gln Ser Thr Cys Pro Pro Ala Val Ala Gly Pro Leu
2608          2325          2330          2335
2609
2610 Pro Thr Met Tyr Gln Ile Pro Glu Met Ala Arg Leu Pro Ser Val Ala
2611          2340          2345          2350
2612
2613 Phe Pro Thr Ala Met Met Pro Gln Gln Asp Gly Gln Val Ala Gln Thr
2614          2355          2360          2365
2615
2616 Ile Leu Pro Ala Tyr His Pro Phe Pro Ala Ser Val Gly Lys Tyr Pro
2617          2370          2375          2380
2618
2619 Thr Pro Pro Ser Gln His Ser Tyr Ala Ser Ser Asn Ala Ala Glu Arg
2620 2385          2390          2395          2400
2621
2622 Thr Pro Ser His Ser Gly His Leu Gln Gly Glu His Pro Tyr Leu Thr
2623          2405          2410          2415
2624
2625 Pro Ser Pro Glu Ser Pro Asp Gln Trp Ser Ser Ser Ser Pro His Ser
2626          2420          2425          2430
2627
2628 Ala Ser Asp Trp Ser Asp Val Thr Thr Ser Pro Thr Pro Gly Gly Ala
2629          2435          2440          2445
2630
2631 Gly Gly Gly Gln Arg Gly Pro Gly Thr His Met Ser Glu Pro Pro His
2632          2450          2455          2460
2633
2634 Asn Asn Met Gln Val Tyr Ala
2635          2465          2470
2636
2637 (2) INFORMATION FOR SEQ ID NO:20:
2638
2639 (i) SEQUENCE CHARACTERISTICS:
2640 (A) LENGTH: 2556 amino acids
2641 (B) TYPE: amino acid
2642 (C) STRANDEDNESS: single
2643 (D) TOPOLOGY: unknown
2644
2645 (ii) MOLECULE TYPE: peptide
2646
2647
2648
2649 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:
2650
2651 Met Pro Pro Leu Leu Ala Pro Leu Leu Cys Leu Ala Leu Leu Pro Ala
2652 1          5          10          15

```

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:13:22

INPUT SET: S7068.raw

```

2653
2654      Leu Ala Ala Arg Gly Pro Arg Cys Ser Gln Pro Gly Glu Thr Cys Leu
2655                20                      25                      30
2656
2657      Asn Gly Gly Lys Cys Glu Ala Ala Asn Gly Thr Glu Ala Cys Val Cys
2658                35                      40                      45
2659
2660      Gly Gly Ala Phe Val Gly Pro Arg Cys Gln Asp Pro Asn Pro Cys Leu
2661                50                      55                      60
2662
2663      Ser Thr Pro Cys Lys Asn Ala Gly Thr Cys His Val Val Asp Arg Arg
2664      65                70                      75                      80
2665
2666      Gly Val Ala Asp Tyr Ala Cys Ser Cys Ala Leu Gly Phe Ser Gly Pro
2667                85                      90                      95
2668
2669      Leu Cys Leu Thr Pro Leu Asp Asn Ala Cys Leu Thr Asn Pro Cys Arg
2670                100                      105                      110
2671
2672      Asn Gly Gly Thr Cys Asp Leu Leu Thr Leu Thr Glu Tyr Lys Cys Arg
2673                115                      120                      125
2674
2675      Cys Pro Pro Gly Trp Ser Gly Lys Ser Cys Gln Gln Ala Asp Pro Cys
2676                130                      135                      140
2677
2678      Ala Ser Asn Pro Cys Ala Asn Gly Gly Gln Cys Leu Pro Phe Glu Ala
2679      145                150                      155                      160
2680
2681      Ser Tyr Ile Cys His Cys Pro Pro Ser Phe His Gly Pro Thr Cys Arg
2682                165                      170                      175
2683
2684      Gln Asp Val Asn Glu Cys Gly Gln Lys Pro Arg Leu Cys Arg His Gly
2685                180                      185                      190
2686
2687      Gly Thr Cys His Asn Glu Val Gly Ser Tyr Arg Cys Val Cys Arg Ala
2688                195                      200                      205
2689
2690      Thr His Thr Gly Pro Asn Cys Glu Arg Pro Tyr Val Pro Cys Ser Pro
2691                210                      215                      220
2692
2693      Ser Pro Cys Gln Asn Gly Gly Thr Cys Arg Pro Thr Gly Asp Val Thr
2694      225                230                      235                      240
2695
2696      His Glu Cys Ala Cys Leu Pro Gly Phe Thr Gly Gln Asn Cys Glu Glu
2697                245                      250                      255
2698
2699      Asn Ile Asp Asp Cys Pro Gly Asn Asn Cys Lys Asn Gly Gly Ala Cys
2700                260                      265                      270
2701
2702      Val Asp Gly Val Asn Thr Tyr Asn Cys Pro Cys Pro Pro Glu Trp Thr
2703                275                      280                      285

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RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:13:28

INPUT SET: S7068.raw

```

2704
2705      Gly Gln Tyr Cys Thr Glu Asp Val Asp Glu Cys Gln Leu Met Pro Asn
2706              290                      295                      300
2707
2708      Ala Cys Gln Asn Gly Gly Thr Cys His Asn Thr His Gly Gly Tyr Asn
2709      305                      310                      315                      320
2710
2711      Cys Val Cys Val Asn Gly Trp Thr Gly Glu Asp Cys Ser Glu Asn Ile
2712              325                      330                      335
2713
2714      Asp Asp Cys Ala Ser Ala Ala Cys Phe His Gly Ala Thr Cys His Asp
2715              340                      345                      350
2716
2717      Arg Val Ala Ser Phe Tyr Cys Glu Cys Pro His Gly Arg Thr Gly Leu
2718              355                      360                      365
2719
2720      Leu Cys His Leu Asn Asp Ala Cys Ile Ser Asn Pro Cys Asn Glu Gly
2721              370                      375                      380
2722
2723      Ser Asn Cys Asp Thr Asn Pro Val Asn Gly Lys Ala Ile Cys Thr Cys
2724      385                      390                      395                      400
2725
2726      Pro Ser Gly Tyr Thr Gly Pro Ala Cys Ser Gln Asp Val Asp Glu Cys
2727              405                      410                      415
2728
2729      Ser Leu Gly Ala Asn Pro Cys Glu His Ala Gly Lys Cys Ile Asn Thr
2730              420                      425                      430
2731
2732      Leu Gly Ser Phe Glu Cys Gln Cys Leu Gln Gly Tyr Thr Gly Pro Arg
2733              435                      440                      445
2734
2735      Cys Glu Ile Asp Val Asn Glu Cys Val Ser Asn Pro Cys Gln Asn Asp
2736              450                      455                      460
2737
2738      Ala Thr Cys Leu Asp Gln Ile Gly Glu Phe Gln Cys Met Cys Met Pro
2739      465                      470                      475                      480
2740
2741      Gly Tyr Glu Gly Val His Cys Glu Val Asn Thr Asp Glu Cys Ala Ser
2742              485                      490                      495
2743
2744      Ser Pro Cys Leu His Asn Gly Arg Cys Leu Asp Lys Ile Asn Glu Phe
2745              500                      505                      510
2746
2747      Gln Cys Glu Cys Pro Thr Gly Phe Thr Gly His Leu Cys Gln Tyr Asp
2748              515                      520                      525
2749
2750      Val Asp Glu Cys Ala Ser Thr Pro Cys Lys Asn Gly Ala Lys Cys Leu
2751              530                      535                      540
2752
2753      Asp Gly Pro Asn Thr Tyr Thr Cys Val Cys Thr Glu Gly Tyr Thr Gly
2754      545                      550                      555                      560

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RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590

 DATE: 12/16/93
 TIME: 13:13:35
INPUT SET: S7068.raw

2755	
2756	Thr His Cys Glu Val Asp Ile Asp Glu Cys Asp Pro Asp Pro Cys His
2757	565 570 575
2758	
2759	Tyr Gly Ser Cys Lys Asp Gly Val Ala Thr Phe Thr Cys Leu Cys Arg
2760	580 585 590
2761	
2762	Pro Gly Tyr Thr Gly His His Cys Glu Thr Asn Ile Asn Glu Cys Ser
2763	595 600 605
2764	
2765	Ser Gln Pro Cys Arg Leu Arg Gly Thr Cys Gln Asp Pro Asp Asn Ala
2766	610 615 620
2767	
2768	Tyr Leu Cys Phe Cys Leu Lys Gly Thr Thr Gly Pro Asn Cys Glu Ile
2769	625 630 635 640
2770	
2771	Asn Leu Asp Asp Cys Ala Ser Ser Pro Cys Asp Ser Gly Thr Cys Leu
2772	645 650 655
2773	
2774	Asp Lys Ile Asp Gly Tyr Glu Cys Ala Cys Glu Pro Gly Tyr Thr Gly
2775	660 665 670
2776	
2777	Ser Met Cys Asn Ser Asn Ile Asp Glu Cys Ala Gly Asn Pro Cys His
2778	675 680 685
2779	
2780	Asn Gly Gly Thr Cys Glu Asp Gly Ile Asn Gly Phe Thr Cys Arg Cys
2781	690 695 700
2782	
2783	Pro Glu Gly Tyr His Asp Pro Thr Cys Leu Ser Glu Val Asn Glu Cys
2784	705 710 715 720
2785	
2786	Asn Ser Asn Pro Cys Val His Gly Ala Cys Arg Asp Ser Leu Asn Gly
2787	725 730 735
2788	
2789	Tyr Lys Cys Asp Cys Asp Pro Gly Trp Ser Gly Thr Asn Cys Asp Ile
2790	740 745 750
2791	
2792	Asn Asn Asn Glu Cys Glu Ser Asn Pro Cys Val Asn Gly Gly Thr Cys
2793	755 760 765
2794	
2795	Lys Asp Met Thr Ser Gly Ile Val Cys Thr Cys Arg Glu Gly Phe Ser
2796	770 775 780
2797	
2798	Gly Pro Asn Cys Gln Thr Asn Ile Asn Glu Cys Ala Ser Asn Pro Cys
2799	785 790 795 800
2800	
2801	Leu Asn Lys Gly Thr Cys Ile Asp Asp Val Ala Gly Tyr Lys Cys Asn
2802	805 810 815
2803	
2804	Cys Leu Leu Pro Tyr Thr Gly Ala Thr Cys Glu Val Val Leu Ala Pro
2805	820 825 830

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:13:42

INPUT SET: S7068.raw

2806																	
2807	Cys	Ala	Pro	Ser	Pro	Cys	Arg	Asn	Gly	Gly	Glu	Cys	Arg	Gln	Ser	Glu	
2808			835					840					845				
2809																	
2810	Asp	Tyr	Glu	Ser	Phe	Ser	Cys	Val	Cys	Pro	Thr	Ala	Gly	Ala	Lys	Gly	
2811		850					855					860					
2812																	
2813	Gln	Thr	Cys	Glu	Val	Asp	Ile	Asn	Glu	Cys	Val	Leu	Ser	Pro	Cys	Arg	
2814	865					870					875					880	
2815																	
2816	His	Gly	Ala	Ser	Cys	Gln	Asn	Thr	His	Gly	Gly	Tyr	Arg	Cys	His	Cys	
2817				885						890					895		
2818																	
2819	Gln	Ala	Gly	Tyr	Ser	Gly	Arg	Asn	Cys	Glu	Thr	Asp	Ile	Asp	Asp	Cys	
2820			900						905					910			
2821																	
2822	Arg	Pro	Asn	Pro	Cys	His	Asn	Gly	Gly	Ser	Cys	Thr	Asp	Gly	Ile	Asn	
2823			915					920					925				
2824																	
2825	Thr	Ala	Phe	Cys	Asp	Cys	Leu	Pro	Gly	Phe	Arg	Gly	Thr	Phe	Cys	Glu	
2826		930					935					940					
2827																	
2828	Glu	Asp	Ile	Asn	Glu	Cys	Ala	Ser	Asp	Pro	Cys	Arg	Asn	Gly	Ala	Asn	
2829	945					950					955					960	
2830																	
2831	Cys	Thr	Asp	Cys	Val	Asp	Ser	Tyr	Thr	Cys	Thr	Cys	Pro	Ala	Gly	Phe	
2832				965						970					975		
2833																	
2834	Ser	Gly	Ile	His	Cys	Glu	Asn	Asn	Thr	Pro	Asp	Cys	Thr	Glu	Ser	Ser	
2835				980					985					990			
2836																	
2837	Cys	Phe	Asn	Gly	Gly	Thr	Cys	Val	Asp	Gly	Ile	Asn	Ser	Phe	Thr	Cys	
2838		995						1000					1005				
2839																	
2840	Leu	Cys	Pro	Pro	Gly	Phe	Thr	Gly	Ser	Tyr	Cys	Gln	His	Val	Val	Asn	
2841		1010					1015					1020					
2842																	
2843	Glu	Cys	Asp	Ser	Arg	Pro	Cys	Leu	Leu	Gly	Gly	Thr	Cys	Gln	Asp	Gly	
2844	1025					1030					1035					1040	
2845																	
2846	Arg	Gly	Leu	His	Arg	Cys	Thr	Cys	Pro	Gln	Gly	Tyr	Thr	Gly	Pro	Asn	
2847				1045						1050					1055		
2848																	
2849	Cys	Gln	Asn	Leu	Val	His	Trp	Cys	Asp	Ser	Ser	Pro	Cys	Lys	Asn	Gly	
2850			1060						1065					1070			
2851																	
2852	Gly	Lys	Cys	Trp	Gln	Thr	His	Thr	Gln	Tyr	Arg	Cys	Glu	Cys	Pro	Ser	
2853		1075						1080					1085				
2854																	
2855	Gly	Trp	Thr	Gly	Leu	Tyr	Cys	Asp	Val	Pro	Ser	Val	Ser	Cys	Glu	Val	
2856		1090					1095						1100				

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590

 DATE: 12/16/93
 TIME: 13:13:49
INPUT SET: S7068.raw

2857
 2858 Ala Ala Gln Arg Gln Gly Val Asp Val Ala Arg Leu Cys Gln His Gly
 2859 1105 1110 1115 1120
 2860
 2861 Gly Leu Cys Val Asp Ala Gly Asn Thr His His Cys Arg Cys Gln Ala
 2862 1125 1130 1135
 2863
 2864 Gly Tyr Thr Gly Ser Tyr Cys Glu Asp Leu Val Asp Glu Cys Ser Pro
 2865 1140 1145 1150
 2866
 2867 Ser Pro Cys Gln Asn Gly Ala Thr Cys Thr Asp Tyr Leu Gly Gly Tyr
 2868 1155 1160 1165
 2869
 2870 Ser Cys Lys Cys Val Ala Gly Tyr His Gly Val Asn Cys Ser Glu Glu
 2871 1170 1175 1180
 2872
 2873 Ile Asp Glu Cys Leu Ser His Pro Cys Gln Asn Gly Gly Thr Cys Leu
 2874 1185 1190 1195 1200
 2875
 2876 Asp Leu Pro Asn Thr Tyr Lys Cys Ser Cys Pro Arg Gly Thr Gln Gly
 2877 1205 1210 1215
 2878
 2879 Val His Cys Glu Ile Asn Val Asp Asp Cys Asn Pro Pro Val Asp Pro
 2880 1220 1225 1230
 2881
 2882 Val Ser Arg Ser Pro Lys Cys Phe Asn Asn Gly Thr Cys Val Asp Gln
 2883 1235 1240 1245
 2884
 2885 Val Gly Gly Tyr Ser Cys Thr Cys Pro Pro Gly Phe Val Gly Glu Arg
 2886 1250 1255 1260
 2887
 2888 Cys Glu Gly Asp Val Asn Glu Cys Leu Ser Asn Pro Cys Asp Ala Arg
 2889 1265 1270 1275 1280
 2890
 2891 Gly Thr Gln Asn Cys Val Gln Arg Val Asn Asp Phe His Cys Glu Cys
 2892 1285 1290 1295
 2893
 2894 Arg Ala Gly His Thr Gly Arg Arg Cys Glu Ser Val Ile Asn Gly Cys
 2895 1300 1305 1310
 2896
 2897 Lys Gly Lys Pro Cys Lys Asn Gly Gly Thr Cys Ala Val Ala Ser Asn
 2898 1315 1320 1325
 2899
 2900 Thr Ala Arg Gly Phe Ile Cys Lys Cys Pro Ala Gly Phe Glu Gly Ala
 2901 1330 1335 1340
 2902
 2903 Thr Cys Glu Asn Asp Ala Arg Thr Cys Gly Ser Leu Arg Cys Leu Asn
 2904 1345 1350 1355 1360
 2905
 2906 Gly Gly Thr Cys Ile Ser Gly Pro Arg Ser Pro Thr Cys Leu Cys Leu
 2907 1365 1370 1375

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:13:56

INPUT SET: S7068.raw

2908	
2909	Gly Pro Phe Thr Gly Pro Glu Cys Gln Phe Pro Ala Ser Ser Pro Cys
2910	1380 1385 1390
2911	
2912	Leu Gly Gly Asn Pro Cys Tyr Asn Gln Gly Thr Cys Glu Pro Thr Ser
2913	1395 1400 1405
2914	
2915	Glu Ser Pro Phe Tyr Arg Cys Leu Cys Pro Ala Lys Phe Asn Gly Leu
2916	1410 1415 1420
2917	
2918	Leu Cys His Ile Leu Asp Tyr Ser Phe Gly Gly Gly Ala Gly Arg Asp
2919	1425 1430 1435 1440
2920	
2921	Ile Pro Pro Pro Leu Ile Glu Glu Ala Cys Glu Leu Pro Glu Cys Gln
2922	1445 1450 1455
2923	
2924	Glu Asp Ala Gly Asn Lys Val Cys Ser Leu Gln Cys Asn Asn His Ala
2925	1460 1465 1470
2926	
2927	Cys Gly Trp Asp Gly Gly Asp Cys Ser Leu Asn Phe Asn Asp Pro Trp
2928	1475 1480 1485
2929	
2930	Lys Asn Cys Thr Gln Ser Leu Gln Cys Trp Lys Tyr Phe Ser Asp Gly
2931	1490 1495 1500
2932	
2933	His Cys Asp Ser Gln Cys Asn Ser Ala Gly Cys Leu Phe Asp Gly Phe
2934	1505 1510 1515 1520
2935	
2936	Asp Cys Gln Arg Ala Glu Gly Gln Cys Asn Pro Leu Tyr Asp Gln Tyr
2937	1525 1530 1535
2938	
2939	Cys Lys Asp His Phe Ser Asp Gly His Cys Asp Gln Gly Cys Asn Ser
2940	1540 1545 1550
2941	
2942	Ala Glu Cys Glu Trp Asp Gly Leu Asp Cys Ala Glu His Val Pro Glu
2943	1555 1560 1565
2944	
2945	Arg Leu Ala Ala Gly Thr Leu Val Val Val Val Leu Met Pro Pro Glu
2946	1570 1575 1580
2947	
2948	Gln Leu Arg Asn Ser Ser Phe His Phe Leu Arg Glu Leu Ser Arg Val
2949	1585 1590 1595 1600
2950	
2951	Leu His Thr Asn Val Val Phe Lys Arg Asp Ala His Gly Gln Gln Met
2952	1605 1610 1615
2953	
2954	Ile Phe Pro Tyr Tyr Gly Arg Glu Glu Glu Leu Arg Lys His Pro Ile
2955	1620 1625 1630
2956	
2957	Lys Arg Ala Ala Glu Gly Trp Ala Ala Pro Asp Ala Leu Leu Gly Gln
2958	1635 1640 1645

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590

 DATE: 12/16/93
 TIME: 13:14:03
INPUT SET: S7068.raw

2959
 2960 Val Lys Ala Ser Leu Leu Pro Gly Gly Ser Glu Gly Gly Arg Arg Arg
 2961 1650 1655 1660
 2962
 2963 Arg Glu Leu Asp Pro Met Asp Val Arg Gly Ser Ile Val Tyr Leu Glu
 2964 1665 1670 1675 1680
 2965
 2966 Ile Asp Asn Arg Gln Cys Val Gln Ala Ser Ser Gln Cys Phe Gln Ser
 2967 1685 1690 1695
 2968
 2969 Ala Thr Asp Val Ala Ala Phe Leu Gly Ala Leu Ala Ser Leu Gly Ser
 2970 1700 1705 1710
 2971
 2972 Leu Asn Ile Pro Tyr Lys Ile Glu Ala Val Gln Ser Glu Thr Val Glu
 2973 1715 1720 1725
 2974
 2975 Pro Pro Pro Pro Ala Gln Leu His Phe Met Tyr Val Ala Ala Ala Ala
 2976 1730 1735 1740
 2977
 2978 Phe Val Leu Leu Phe Phe Val Gly Cys Gly Val Leu Leu Ser Arg Lys
 2979 1745 1750 1755 1760
 2980
 2981 Arg Arg Arg Gln His Gly Gln Leu Trp Phe Pro Glu Gly Phe Lys Val
 2982 1765 1770 1775
 2983
 2984 Ser Glu Ala Ser Lys Lys Lys Arg Arg Glu Glu Leu Gly Glu Asp Ser
 2985 1780 1785 1790
 2986
 2987 Val Gly Leu Lys Pro Leu Lys Asn Ala Ser Asp Gly Ala Leu Met Asp
 2988 1795 1800 1805
 2989
 2990 Asp Asn Gln Asn Glu Trp Gly Asp Glu Asp Leu Glu Thr Lys Lys Phe
 2991 1810 1815 1820
 2992
 2993 Arg Phe Glu Glu Pro Val Val Leu Pro Asp Leu Asp Asp Gln Thr Asp
 2994 1825 1830 1835 1840
 2995
 2996 His Arg Gln Trp Thr Gln Gln His Leu Asp Ala Ala Asp Leu Arg Met
 2997 1845 1850 1855
 2998
 2999 Ser Ala Met Ala Pro Thr Pro Pro Gln Gly Glu Val Asp Ala Asp Cys
 3000 1860 1865 1870
 3001
 3002 Met Asp Val Asn Val Arg Gly Pro Asp Gly Phe Thr Pro Leu Met Ile
 3003 1875 1880 1885
 3004
 3005 Ala Ser Cys Ser Gly Gly Gly Leu Glu Thr Gly Asn Ser Glu Glu Glu
 3006 1890 1895 1900
 3007
 3008 Glu Asp Ala Pro Ala Val Ile Ser Asp Phe Ile Tyr Gln Gly Ala Ser
 3009 1905 1910 1915 1920

RAW SEQUENCE LISTING
PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:14:10

INPUT SET: S7068.raw

```

3010
3011      Leu His Asn Gln Thr Asp Arg Thr Gly Glu Thr Ala Leu His Leu Ala
3012                      1925                      1930                      1935
3013
3014      Ala Arg Tyr Ser Arg Ser Asp Ala Ala Lys Arg Leu Leu Glu Ala Ser
3015                      1940                      1945                      1950
3016
3017      Ala Asp Ala Asn Ile Gln Asp Asn Met Gly Arg Thr Pro Leu His Ala
3018                      1955                      1960                      1965
3019
3020      Ala Val Ser Ala Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn
3021                      1970                      1975                      1980
3022
3023      Arg Ala Thr Asp Leu Asp Ala Arg Met His Asp Gly Thr Thr Pro Leu
3024      1985                      1990                      1995                      2000
3025
3026      Ile Leu Ala Ala Arg Leu Ala Val Glu Gly Met Leu Glu Asp Leu Ile
3027                      2005                      2010                      2015
3028
3029      Asn Ser His Ala Asp Val Asn Ala Val Asp Asp Leu Gly Lys Ser Ala
3030                      2020                      2025                      2030
3031
3032      Leu His Trp Ala Ala Ala Val Asn Asn Val Asp Ala Ala Val Val Leu
3033                      2035                      2040                      2045
3034
3035      Leu Lys Asn Gly Ala Asn Lys Asp Met Gln Asn Asn Arg Glu Glu Thr
3036                      2050                      2055                      2060
3037
3038      Pro Leu Phe Leu Ala Ala Arg Glu Gly Ser Tyr Glu Thr Ala Lys Val
3039      2065                      2070                      2075                      2080
3040
3041      Leu Leu Asp His Phe Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg
3042                      2085                      2090                      2095
3043
3044      Leu Pro Arg Asp Ile Ala Gln Glu Arg Met His His Asp Ile Val Arg
3045                      2100                      2105                      2110
3046
3047      Leu Leu Asp Glu Tyr Asn Leu Val Arg Ser Pro Gln Leu His Gly Ala
3048                      2115                      2120                      2125
3049
3050      Pro Leu Gly Gly Thr Pro Thr Leu Ser Pro Pro Leu Cys Ser Pro Asn
3051                      2130                      2135                      2140
3052
3053      Gly Tyr Leu Gly Ser Leu Lys Pro Gly Val Gln Gly Lys Lys Val Arg
3054      2145                      2150                      2155                      2160
3055
3056      Lys Pro Ser Ser Lys Gly Leu Ala Cys Gly Ser Lys Glu Ala Lys Asp
3057                      2165                      2170                      2175
3058
3059      Leu Lys Ala Arg Arg Lys Lys Ser Gln Asp Gly Lys Gly Cys Leu Leu
3060                      2180                      2185                      2190

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RAW SEQUENCE LISTING PATENT APPLICATION *US/08/083,590*

DATE: 12/16/93
TIME: 13:14:16

INPUT SET: S7068.raw

3061																			
3062	Asp	Ser	Ser	Gly	Met	Leu	Ser	Pro	Val	Asp	Ser	Leu	Glu	Ser	Pro	His			
3063				2195					2200				2205						
3064																			
3065	Gly	Tyr	Leu	Ser	Asp	Val	Ala	Ser	Pro	Pro	Leu	Leu	Pro	Ser	Pro	Phe			
3066			2210					2215					2220						
3067																			
3068	Gln	Gln	Ser	Pro	Ser	Val	Pro	Leu	Asn	His	Leu	Pro	Gly	Met	Pro	Asp			
3069			2225				2230					2235				2240			
3070																			
3071	Thr	His	Leu	Gly	Ile	Gly	His	Leu	Asn	Val	Ala	Ala	Lys	Pro	Glu	Met			
3072					2245					2250						2255			
3073																			
3074	Ala	Ala	Leu	Gly	Gly	Gly	Gly	Arg	Leu	Ala	Phe	Glu	Thr	Gly	Pro	Pro			
3075				2260					2265					2270					
3076																			
3077	Arg	Leu	Ser	His	Leu	Pro	Val	Ala	Ser	Gly	Thr	Ser	Thr	Val	Leu	Gly			
3078			2275					2280						2285					
3079																			
3080	Ser	Ser	Ser	Gly	Gly	Ala	Leu	Asn	Phe	Thr	Val	Gly	Gly	Ser	Thr	Ser			
3081			2290				2295					2300							
3082																			
3083	Leu	Asn	Gly	Gln	Cys	Glu	Trp	Leu	Ser	Arg	Leu	Gln	Ser	Gly	Met	Val			
3084			2305			2310					2315					2320			
3085																			
3086	Pro	Asn	Gln	Tyr	Asn	Pro	Leu	Arg	Gly	Ser	Val	Ala	Pro	Gly	Pro	Leu			
3087				2325					2330					2335					
3088																			
3089	Ser	Thr	Gln	Ala	Pro	Ser	Leu	Gln	His	Gly	Met	Val	Gly	Pro	Leu	His			
3090			2340					2345						2350					
3091																			
3092	Ser	Ser	Leu	Ala	Ala	Ser	Ala	Leu	Ser	Gln	Met	Met	Ser	Tyr	Gln	Gly			
3093			2355				2360						2365						
3094																			
3095	Leu	Pro	Ser	Thr	Arg	Leu	Ala	Thr	Gln	Pro	His	Leu	Val	Gln	Thr	Gln			
3096			2370			2375						2380							
3097																			
3098	Gln	Val	Gln	Pro	Gln	Asn	Leu	Gln	Met	Gln	Gln	Gln	Asn	Leu	Gln	Pro			
3099			2385			2390				2395					2400				
3100																			
3101	Ala	Asn	Ile	Gln	Gln	Gln	Gln	Ser	Leu	Gln	Pro	Pro	Pro	Pro	Pro	Pro			
3102				2405					2410						2415				
3103																			
3104	Gln	Pro	His	Leu	Gly	Val	Ser	Ser	Ala	Ala	Ser	Gly	His	Leu	Gly	Arg			
3105			2420					2425					2430						
3106																			
3107	Ser	Phe	Leu	Ser	Gly	Glu	Pro	Ser	Gln	Ala	Asp	Val	Gln	Pro	Leu	Gly			
3108			2435					2440					2445						
3109																			
3110	Pro	Ser	Ser	Leu	Ala	Val	His	Thr	Ile	Leu	Pro	Gln	Glu	Ser	Pro	Ala			
3111			2450				2455					2460							

RAW SEQUENCE LISTING **PATENT APPLICATION US/08/083,590**

DATE: 12/16/93
 TIME: 13:14:23

INPUT SET: S7068.raw

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3112
3113      Leu Pro Thr Ser Leu Pro Ser Ser Leu Val Pro Pro Val Thr Ala Ala
3114      2465                      2470                      2475                      2480
3115
3116      Gln Phe Leu Thr Pro Pro Ser Gln His Ser Tyr Ser Ser Pro Val Glu
3117                      2485                      2490                      2495
3118
3119      Asn Thr Pro Ser His Gln Leu Gln Val Pro Glu His Pro Phe Leu Thr
3120                      2500                      2505                      2510
3121
3122      Pro Ser Pro Glu Ser Pro Asp Gln Trp Ser Ser Ser Ser Pro His Ser
3123                      2515                      2520                      2525
3124
3125      Asn Val Ser Asp Trp Ser Glu Gly Val Ser Ser Pro Pro Thr Ser Met
3126                      2530                      2535                      2540
3127
3128      Gln Ser Gln Ile Ala Arg Ile Pro Glu Ala Phe Lys
3129      2545                      2550                      2555
3130

```

(2) INFORMATION FOR SEQ ID NO:21:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 9723 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: unknown

(ii) MOLECULE TYPE: cDNA

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 10..7419

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

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3148
3149      GGAATTCCG CCC GCC CTG CGC CCC GCT CTG CTG TGG GCG CTG CTG GCG      48
3150      Pro Ala Leu Arg Pro Ala Leu Leu Trp Ala Leu Leu Ala
3151      1                      5                      10
3152
3153      CTC TGG CTG TGC TGC GCG GCC CCC GCG CAT GCA TTG CAG TGT CGA GAT      96
3154      Leu Trp Leu Cys Cys Ala Ala Pro Ala His Ala Leu Gln Cys Arg Asp
3155      15                      20                      25
3156
3157      GGC TAT GAA CCC TGT GTA AAT GAA GGA ATG TGT GTT ACC TAC CAC AAT      144
3158      Gly Tyr Glu Pro Cys Val Asn Glu Gly Met Cys Val Thr Tyr His Asn
3159      30                      35                      40                      45
3160
3161      GGC ACA GGA TAC TGC AAA TGT CCA GAA GGC TTC TTG GGG GAA TAT TGT      192
3162      Gly Thr Gly Tyr Cys Lys Cys Pro Glu Gly Phe Leu Gly Glu Tyr Cys

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RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:14:30

INPUT SET: S7068.raw

3163		50		55		60	
3164							
3165	CAA CAT CGA GAC CCC TGT GAG AAG AAC CGC TGC CAG AAT GGT GGG ACT						240
3166	Gln His Arg Asp Pro Cys Glu Lys Asn Arg Cys Gln Asn Gly Gly Thr						
3167		65		70		75	
3168							
3169	TGT GTG GCC CAG GCC ATG CTG GGG AAA GCC ACG TGC CGA TGT GCC TCA						288
3170	Cys Val Ala Gln Ala Met Leu Gly Lys Ala Thr Cys Arg Cys Ala Ser						
3171		80		85		90	
3172							
3173	GGG TTT ACA GGA GAG GAC TGC CAG TAC TCA ACA TCT CAT CCA TGC TTT						336
3174	Gly Phe Thr Gly Glu Asp Cys Gln Tyr Ser Thr Ser His Pro Cys Phe						
3175		95		100		105	
3176							
3177	GTG TCT CGA CCC TGC CTG AAT GGC GGC ACA TGC CAT ATG CTC AGC CGG						384
3178	Val Ser Arg Pro Cys Leu Asn Gly Gly Thr Cys His Met Leu Ser Arg						
3179		110		115		120	125
3180							
3181	GAT ACC TAT GAG TGC ACC TGT CAA GTC GGG TTT ACA GGT AAG GAG TGC						432
3182	Asp Thr Tyr Glu Cys Thr Cys Gln Val Gly Phe Thr Gly Lys Glu Cys						
3183		130		135		140	
3184							
3185	CAA TGG ACG GAT GCC TGC CTG TCT CAT CCC TGT GCA AAT GGA AGT ACC						480
3186	Gln Trp Thr Asp Ala Cys Leu Ser His Pro Cys Ala Asn Gly Ser Thr						
3187		145		150		155	
3188							
3189	TGT ACC ACT GTG GCC AAC CAG TTC TCC TGC AAA TGC CTC ACA GGC TTC						528
3190	Cys Thr Thr Val Ala Asn Gln Phe Ser Cys Lys Cys Leu Thr Gly Phe						
3191		160		165		170	
3192							
3193	ACA GGG CAG AAA TGT GAG ACT GAT GTC AAT GAG TGT GAC ATT CCA GGA						576
3194	Thr Gly Gln Lys Cys Glu Thr Asp Val Asn Glu Cys Asp Ile Pro Gly						
3195		175		180		185	
3196							
3197	CAC TGC CAG CAT GGT GGC ACC TGC CTC AAC CTG CCT GGT TCC TAC CAG						624
3198	His Cys Gln His Gly Gly Thr Cys Leu Asn Leu Pro Gly Ser Tyr Gln						
3199		190		195		200	205
3200							
3201	TGC CAG TGC CCT CAG GGC TTC ACA GGC CAG TAC TGT GAC AGC CTG TAT						672
3202	Cys Gln Cys Pro Gln Gly Phe Thr Gly Gln Tyr Cys Asp Ser Leu Tyr						
3203		210		215		220	
3204							
3205	GTG CCC TGT GCA CCC TCA CCT TGT GTC AAT GGA GGC ACC TGT CGG CAG						720
3206	Val Pro Cys Ala Pro Ser Pro Cys Val Asn Gly Gly Thr Cys Arg Gln						
3207		225		230		235	
3208							
3209	ACT GGT GAC TTC ACT TTT GAG TGC AAC TGC CTT CCA GGT TTT GAA GGG						768
3210	Thr Gly Asp Phe Thr Phe Glu Cys Asn Cys Leu Pro Gly Phe Glu Gly						
3211		240		245		250	
3212							
3213	AGC ACC TGT GAG AGG AAT ATT GAT GAC TGC CCT AAC CAC AGG TGT CAG						816

RAW SEQUENCE LISTING **PATENT APPLICATION US/08/083,590**

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INPUT SET: S7068.raw

3214	Ser Thr Cys Glu Arg Asn Ile Asp Asp Cys Pro Asn His Arg Cys Gln	
3215	255 260 265	
3216		
3217	AAT GGA GGG GTT TGT GTG GAT GGG GTC AAC ACT TAC AAC TGC CGC TGT	864
3218	Asn Gly Gly Val Cys Val Asp Gly Val Asn Thr Tyr Asn Cys Arg Cys	
3219	270 275 280 285	
3220		
3221	CCC CCA CAA TGG ACA GGA CAG TTC TGC ACA GAG GAT GTG GAT GAA TGC	912
3222	Pro Pro Gln Trp Thr Gly Gln Phe Cys Thr Glu Asp Val Asp Glu Cys	
3223	290 295 300	
3224		
3225	CTG CTG CAG CCC AAT GCC TGT CAA AAT GGG GGC ACC TGT GCC AAC CGC	960
3226	Leu Leu Gln Pro Asn Ala Cys Gln Asn Gly Gly Thr Cys Ala Asn Arg	
3227	305 310 315	
3228		
3229	AAT GGA GGC TAT GGC TGT GTA TGT GTC AAC GGC TGG AGT GGA GAT GAC	1008
3230	Asn Gly Gly Tyr Gly Cys Val Cys Val Asn Gly Trp Ser Gly Asp Asp	
3231	320 325 330	
3232		
3233	TGC AGT GAG AAC ATT GAT GAT TGT GCC TTC GCC TCC TGT ACT CCA GGC	1056
3234	Cys Ser Glu Asn Ile Asp Asp Cys Ala Phe Ala Ser Cys Thr Pro Gly	
3235	335 340 345	
3236		
3237	TCC ACC TGC ATC GAC CGT GTG GCC TCC TTC TCT TGC ATG TGC CCA GAG	1104
3238	Ser Thr Cys Ile Asp Arg Val Ala Ser Phe Ser Cys Met Cys Pro Glu	
3239	350 355 360 365	
3240		
3241	GGG AAG GCA GGT CTC CTG TGT CAT CTG GAT GAT GCA TGC ATC AGC AAT	1152
3242	Gly Lys Ala Gly Leu Leu Cys His Leu Asp Asp Ala Cys Ile Ser Asn	
3243	370 375 380	
3244		
3245	CCT TGC CAC AAG GGG GCA CTG TGT GAC ACC AAC CCC CTA AAT GGG CAA	1200
3246	Pro Cys His Lys Gly Ala Leu Cys Asp Thr Asn Pro Leu Asn Gly Gln	
3247	385 390 395	
3248		
3249	TAT ATT TGC ACC TGC CCA CAA GGC TAC AAA GGG GCT GAC TGC ACA GAA	1248
3250	Tyr Ile Cys Thr Cys Pro Gln Gly Tyr Lys Gly Ala Asp Cys Thr Glu	
3251	400 405 410	
3252		
3253	GAT GTG GAT GAA TGT GCC ATG GCC AAT AGC AAT CCT TGT GAG CAT GCA	1296
3254	Asp Val Asp Glu Cys Ala Met Ala Asn Ser Asn Pro Cys Glu His Ala	
3255	415 420 425	
3256		
3257	GGA AAA TGT GTG AAC ACG GAT GGC GCC TTC CAC TGT GAG TGT CTG AAG	1344
3258	Gly Lys Cys Val Asn Thr Asp Gly Ala Phe His Cys Glu Cys Leu Lys	
3259	430 435 440 445	
3260		
3261	GGT TAT GCA GGA CCT CGT TGT GAG ATG GAC ATC AAT GAG TGC CAT TCA	1392
3262	Gly Tyr Ala Gly Pro Arg Cys Glu Met Asp Ile Asn Glu Cys His Ser	
3263	450 455 460	
3264		

RAW SEQUENCE LISTING PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:14:44

INPUT SET: S7068.raw

3265	GAC CCC TGC CAG AAT GAT GCT ACC TGT CTG GAT AAG ATT GGA GGC TTC	1440
3266	Asp Pro Cys Gln Asn Asp Ala Thr Cys Leu Asp Lys Ile Gly Gly Phe	
3267	465 470 475	
3268		
3269	ACA TGT CTG TGC ATG CCA GGT TTC AAA GGT GTG CAT TGT GAA TTA GAA	1488
3270	Thr Cys Leu Cys Met Pro Gly Phe Lys Gly Val His Cys Glu Leu Glu	
3271	480 485 490	
3272		
3273	ATA AAT GAA TGT CAG AGC AAC CCT TGT GTG AAC AAT GGG CAG TGT GTG	1536
3274	Ile Asn Glu Cys Gln Ser Asn Pro Cys Val Asn Asn Gly Gln Cys Val	
3275	495 500 505	
3276		
3277	GAT AAA GTC AAT CGT TTC CAG TGC CTG TGT CCT CCT GGT TTC ACT GGG	1584
3278	Asp Lys Val Asn Arg Phe Gln Cys Leu Cys Pro Pro Gly Phe Thr Gly	
3279	510 515 520 525	
3280		
3281	CCA GTT TGC CAG ATT GAT ATT GAT GAC TGT TCC AGT ACT CCG TGT CTG	1632
3282	Pro Val Cys Gln Ile Asp Ile Asp Asp Cys Ser Ser Thr Pro Cys Leu	
3283	530 535 540	
3284		
3285	AAT GGG GCA AAG TGT ATC GAT CAC CCG AAT GGC TAT GAA TGC CAG TGT	1680
3286	Asn Gly Ala Lys Cys Ile Asp His Pro Asn Gly Tyr Glu Cys Gln Cys	
3287	545 550 555	
3288		
3289	GCC ACA GGT TTC ACT GGT GTG TTG TGT GAG GAG AAC ATT GAC AAC TGT	1728
3290	Ala Thr Gly Phe Thr Gly Val Leu Cys Glu Glu Asn Ile Asp Asn Cys	
3291	560 565 570	
3292		
3293	GAC CCC GAT CCT TGC CAC CAT GGT CAG TGT CAG GAT GGT ATT GAT TCC	1776
3294	Asp Pro Asp Pro Cys His His Gly Gln Cys Gln Asp Gly Ile Asp Ser	
3295	575 580 585	
3296		
3297	TAC ACC TGC ATC TGC AAT CCC GGG TAC ATG GGC GCC ATC TGC AGT GAC	1824
3298	Tyr Thr Cys Ile Cys Asn Pro Gly Tyr Met Gly Ala Ile Cys Ser Asp	
3299	590 595 600 605	
3300		
3301	CAG ATT GAT GAA TGT TAC AGC AGC CCT TGC CTG AAC GAT GGT CGC TGC	1872
3302	Gln Ile Asp Glu Cys Tyr Ser Ser Pro Cys Leu Asn Asp Gly Arg Cys	
3303	610 615 620	
3304		
3305	ATT GAC CTG GTC AAT GGC TAC CAG TGC AAC TGC CAG CCA GGC ACG TCA	1920
3306	Ile Asp Leu Val Asn Gly Tyr Gln Cys Asn Cys Gln Pro Gly Thr Ser	
3307	625 630 635	
3308		
3309	GGG GTT AAT TGT GAA ATT AAT TTT GAT GAC TGT GCA AGT AAC CCT TGT	1968
3310	Gly Val Asn Cys Glu Ile Asn Phe Asp Asp Cys Ala Ser Asn Pro Cys	
3311	640 645 650	
3312		
3313	ATC CAT GGA ATC TGT ATG GAT GGC ATT AAT CGC TAC AGT TGT GTC TGC	2016
3314	Ile His Gly Ile Cys Met Asp Gly Ile Asn Arg Tyr Ser Cys Val Cys	
3315	655 660 665	

INPUT SET: S7068.raw

3316																		
3317	TCA	CCA	GGA	TTC	ACA	GGG	CAG	AGA	TGT	AAC	ATT	GAC	ATT	GAT	GAG	TGT		2064
3318	Ser	Pro	Gly	Phe	Thr	Gly	Gln	Arg	Cys	Asn	Ile	Asp	Ile	Asp	Glu	Cys		
3319	670					675					680					685		
3320																		
3321	GCC	TCC	AAT	CCC	TGT	CGC	AAG	GGT	GCA	ACA	TGT	ATC	AAC	GGT	GTG	AAT		2112
3322	Ala	Ser	Asn	Pro	Cys	Arg	Lys	Gly	Ala	Thr	Cys	Ile	Asn	Gly	Val	Asn		
3323					690					695					700			
3324																		
3325	GGT	TTC	CGC	TGT	ATA	TGC	CCC	GAG	GGA	CCC	CAT	CAC	CCC	AGC	TGC	TAC		2160
3326	Gly	Phe	Arg	Cys	Ile	Cys	Pro	Glu	Gly	Pro	His	His	Pro	Ser	Cys	Tyr		
3327				705					710					715				
3328																		
3329	TCA	CAG	GTG	AAC	GAA	TGC	CTG	AGC	AAT	CCC	TGC	ATC	CAT	GGA	AAC	TGT		2208
3330	Ser	Gln	Val	Asn	Glu	Cys	Leu	Ser	Asn	Pro	Cys	Ile	His	Gly	Asn	Cys		
3331			720					725					730					
3332																		
3333	ACT	GGA	GGT	CTC	AGT	GGA	TAT	AAG	TGT	CTC	TGT	GAT	GCA	GGC	TGG	GTT		2256
3334	Thr	Gly	Gly	Leu	Ser	Gly	Tyr	Lys	Cys	Leu	Cys	Asp	Ala	Gly	Trp	Val		
3335		735					740					745						
3336																		
3337	GGC	ATC	AAC	TGT	GAA	GTG	GAC	AAA	AAT	GAA	TGC	CTT	TCG	AAT	CCA	TGC		2304
3338	Gly	Ile	Asn	Cys	Glu	Val	Asp	Lys	Asn	Glu	Cys	Leu	Ser	Asn	Pro	Cys		
3339	750					755					760					765		
3340																		
3341	CAG	AAT	GGA	GGA	ACT	TGT	GAC	AAT	CTG	GTG	AAT	GGA	TAC	AGG	TGT	ACT		2352
3342	Gln	Asn	Gly	Gly	Thr	Cys	Asp	Asn	Leu	Val	Asn	Gly	Tyr	Arg	Cys	Thr		
3343					770					775					780			
3344																		
3345	TGC	AAG	AAG	GGC	TTT	AAA	GGC	TAT	AAC	TGC	CAG	GTG	AAT	ATT	GAT	GAA		2400
3346	Cys	Lys	Lys	Gly	Phe	Lys	Gly	Tyr	Asn	Cys	Gln	Val	Asn	Ile	Asp	Glu		
3347				785					790					795				
3348																		
3349	TGT	GCC	TCA	AAT	CCA	TGC	CTG	AAC	CAA	GGA	ACC	TGC	TTT	GAT	GAC	ATA		2448
3350	Cys	Ala	Ser	Asn	Pro	Cys	Leu	Asn	Gln	Gly	Thr	Cys	Phe	Asp	Asp	Ile		
3351			800					805					810					
3352																		
3353	AGT	GGC	TAC	ACT	TGC	CAC	TGT	GTG	CTG	CCA	TAC	ACA	GGC	AAG	AAT	TGT		2496
3354	Ser																	

RAW SEQUENCE LISTING PATENT APPLICATION *US/08/083,590*

DATE: 12/16/93
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INPUT SET: S7068.raw

3367		865		870		875		
3368								
3369	TCC	AAG	CCC	TGC	ATG	AAC	CAT	GGT
3370	Ser	Lys	Pro	Cys	Met	Asn	His	Gly
3371			880					885
3372								890
3373	TAC	ATG	TGT	GAA	TGT	CCA	CCA	GGC
3374	Tyr	Met	Cys	Glu	Cys	Pro	Pro	Gly
3375		895				900		905
3376								
3377	GAC	ATT	GAT	GAC	TGC	CTT	GCC	AAT
3378	Asp	Ile	Asp	Asp	Cys	Leu	Ala	Asn
3379	910				915			920
3380								925
3381	ATG	GAT	GGA	GTG	AAT	ACT	TTC	TCC
3382	Met	Asp	Gly	Val	Asn	Thr	Phe	Ser
3383				930				935
3384								940
3385	GGG	GAT	AAG	TGC	CAG	ACA	GAC	ATG
3386	Gly	Asp	Lys	Cys	Gln	Thr	Asp	Met
3387			945					950
3388								955
3389	AAG	AAT	GGA	GGG	ACC	TGC	TCT	GAC
3390	Lys	Asn	Gly	Gly	Thr	Cys	Ser	Asp
3391		960					965	
3392								970
3393	TGC	CAG	GCA	GGA	TTT	GAT	GGA	GTC
3394	Cys	Gln	Ala	Gly	Phe	Asp	Gly	Val
3395		975				980		985
3396								
3397	TGC	ACT	GAG	AGC	TCC	TGT	TTC	AAT
3398	Cys	Thr	Glu	Ser	Ser	Cys	Phe	Asn
3399	990				995			1000
3400								1005
3401	AAC	TCC	TTC	TCT	TGC	TTG	TGC	CCT
3402	Asn	Ser	Phe	Ser	Cys	Leu	Cys	Pro
3403				1010				1015
3404								1020
3405	CTC	CAT	GAG	ATC	AAT	GAA	TGC	AGC
3406	Leu	His	Glu	Ile	Asn	Glu	Cys	Ser
3407			1025				1030	
3408								1035
3409	ACG	TGT	GTT	GAT	GGC	CTG	GGT	ACC
3410	Thr	Cys	Val	Asp	Gly	Leu	Gly	Thr
3411		1040				1045		1050
3412								
3413	TAC	ACT	GGG	AAA	AAC	TGT	CAG	ACC
3414	Tyr	Thr	Gly	Lys	Asn	Cys	Gln	Thr
3415		1055				1060		1065
3416								
3417	CCA	TGT	AAA	AAC	AAA	GGT	ACT	TGT

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DATE: 12/16/93
TIME: 13:15:04

INPUT SET: S7068.raw

3418	Pro Cys Lys Asn Lys Gly Thr Cys Val Gln Lys Lys Ala Glu Ser Gln	
3419	1070 1075 1080 1085	
3420		
3421	TGC CTA TGT CCA TCT GGA TGG GCT GGT GCC TAT TGT GAC GTG CCC AAT	3312
3422	Cys Leu Cys Pro Ser Gly Trp Ala Gly Ala Tyr Cys Asp Val Pro Asn	
3423	1090 1095 1100	
3424		
3425	GTC TCT TGT GAC ATA GCA GCC TCC AGG AGA GGT GTG CTT GTT GAA CAC	3360
3426	Val Ser Cys Asp Ile Ala Ala Ser Arg Arg Gly Val Leu Val Glu His	
3427	1105 1110 1115	
3428		
3429	TTG TGC CAG CAC TCA GGT GTC TGC ATC AAT GCT GGC AAC ACG CAT TAC	3408
3430	Leu Cys Gln His Ser Gly Val Cys Ile Asn Ala Gly Asn Thr His Tyr	
3431	1120 1125 1130	
3432		
3433	TGT CAG TGC CCC CTG GGC TAT ACT GGG AGC TAC TGT GAG GAG CAA CTC	3456
3434	Cys Gln Cys Pro Leu Gly Tyr Thr Gly Ser Tyr Cys Glu Glu Gln Leu	
3435	1135 1140 1145	
3436		
3437	GAT GAG TGT GCG TCC AAC CCC TGC CAG CAC GGG GCA ACA TGC AGT GAC	3504
3438	Asp Glu Cys Ala Ser Asn Pro Cys Gln His Gly Ala Thr Cys Ser Asp	
3439	1150 1155 1160 1165	
3440		
3441	TTC ATT GGT GGA TAC AGA TGC GAG TGT GTC CCA GGC TAT CAG GGT GTC	3552
3442	Phe Ile Gly Gly Tyr Arg Cys Glu Cys Val Pro Gly Tyr Gln Gly Val	
3443	1170 1175 1180	
3444		
3445	AAC TGT GAG TAT GAA GTG GAT GAG TGC CAG AAT CAG CCC TGC CAG AAT	3600
3446	Asn Cys Glu Tyr Glu Val Asp Glu Cys Gln Asn Gln Pro Cys Gln Asn	
3447	1185 1190 1195	
3448		
3449	GGA GGC ACC TGT ATT GAC CTT GTG AAC CAT TTC AAG TGC TCT TGC CCA	3648
3450	Gly Gly Thr Cys Ile Asp Leu Val Asn His Phe Lys Cys Ser Cys Pro	
3451	1200 1205 1210	
3452		
3453	CCA GGC ACT CGG GGC CTA CTC TGT GAA GAG AAC ATT GAT GAC TGT GCC	3696
3454	Pro Gly Thr Arg Gly Leu Leu Cys Glu Glu Asn Ile Asp Asp Cys Ala	
3455	1215 1220 1225	
3456		
3457	CGG GGT CCC CAT TGC CTT AAT GGT GGT CAG TGC ATG GAT AGG ATT GGA	3744
3458	Arg Gly Pro His Cys Leu Asn Gly Gly Gln Cys Met Asp Arg Ile Gly	
3459	1230 1235 1240 1245	
3460		
3461	GGC TAC AGT TGT CGC TGC TTG CCT GGC TTT GCT GGG GAG CGT TGT GAG	3792
3462	Gly Tyr Ser Cys Arg Cys Leu Pro Gly Phe Ala Gly Glu Arg Cys Glu	
3463	1250 1255 1260	
3464		
3465	GGA GAC ATC AAC GAG TGC CTC TCC AAC CCC TGC AGC TCT GAG GGC AGC	3840
3466	Gly Asp Ile Asn Glu Cys Leu Ser Asn Pro Cys Ser Ser Glu Gly Ser	
3467	1265 1270 1275	
3468		

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TIME: 13:15:10

INPUT SET: S7068.raw

3469	CTG GAC TGT ATA CAG CTC ACC AAT GAC TAC CTG TGT GTT TGC CGT AGT	3888
3470	Leu Asp Cys Ile Gln Leu Thr Asn Asp Tyr Leu Cys Val Cys Arg Ser	
3471	1280 1285 1290	
3472		
3473	GCC TTT ACT GGC CGG CAC TGT GAA ACC TTC GTC GAT GTG TGT CCC CAG	3936
3474	Ala Phe Thr Gly Arg His Cys Glu Thr Phe Val Asp Val Cys Pro Gln	
3475	1295 1300 1305	
3476		
3477	ATG CCC TGC CTG AAT GGA GGG ACT TGT GCT GTG GCC AGT AAC ATG CCT	3984
3478	Met Pro Cys Leu Asn Gly Gly Thr Cys Ala Val Ala Ser Asn Met Pro	
3479	1310 1315 1320 1325	
3480		
3481	GAT GGT TTC ATT TGC CGT TGT CCC CCG GGA TTT TCC GGG GCA AGG TGC	4032
3482	Asp Gly Phe Ile Cys Arg Cys Pro Pro Gly Phe Ser Gly Ala Arg Cys	
3483	1330 1335 1340	
3484		
3485	CAG AGC AGC TGT GGA CAA GTG AAA TGT AGG AAG GGG GAG CAG TGT GTG	4080
3486	Gln Ser Ser Cys Gly Gln Val Lys Cys Arg Lys Gly Glu Gln Cys Val	
3487	1345 1350 1355	
3488		
3489	CAC ACC GCC TCT GGA CCC CGC TGC TTC TGC CCC AGT CCC CGG GAC TGC	4128
3490	His Thr Ala Ser Gly Pro Arg Cys Phe Cys Pro Ser Pro Arg Asp Cys	
3491	1360 1365 1370	
3492		
3493	GAG TCA GGC TGT GCC AGT AGC CCC TGC CAG CAC GGG GGC AGC TGC CAC	4176
3494	Glu Ser Gly Cys Ala Ser Ser Pro Cys Gln His Gly Gly Ser Cys His	
3495	1375 1380 1385	
3496		
3497	CCT CAG CGC CAG CCT CCT TAT TAC TCC TGC CAG TGT GCC CCA CCA TTC	4224
3498	Pro Gln Arg Gln Pro Pro Tyr Tyr Ser Cys Gln Cys Ala Pro Pro Phe	
3499	1390 1395 1400 1405	
3500		
3501	TCG GGT AGC CGC TGT GAA CTC TAC ACG GCA CCC CCC AGC ACC CCT CCT	4272
3502	Ser Gly Ser Arg Cys Glu Leu Tyr Thr Ala Pro Pro Ser Thr Pro Pro	
3503	1410 1415 1420	
3504		
3505	GCC ACC TGT CTG AGC CAG TAT TGT GCC GAC AAA GCT CGG GAT GGC GTC	4320
3506	Ala Thr Cys Leu Ser Gln Tyr Cys Ala Asp Lys Ala Arg Asp Gly Val	
3507	1425 1430 1435	
3508		
3509	TGT GAT GAG GCC TGC AAC AGC CAT GCC TGC CAG TGG GAT GGG GGT GAC	4368
3510	Cys Asp Glu Ala Cys Asn Ser His Ala Cys Gln Trp Asp Gly Gly Asp	
3511	1440 1445 1450	
3512		
3513	TGT TCT CTC ACC ATG GAG AAC CCC TGG GCC AAC TGC TCC TCC CCA CTT	4416
3514	Cys Ser Leu Thr Met Glu Asn Pro Trp Ala Asn Cys Ser Ser Pro Leu	
3515	1455 1460 1465	
3516		
3517	CCC TGC TGG GAT TAT ATC AAC AAC CAG TGT GAT GAG CTG TGC AAC ACG	4464
3518	Pro Cys Trp Asp Tyr Ile Asn Asn Gln Cys Asp Glu Leu Cys Asn Thr	
3519	1470 1475 1480 1485	

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INPUT SET: S7068.raw

3520																	
3521	GTC	GAG	TGC	CTG	TTT	GAC	AAC	TTT	GAA	TGC	CAG	GGG	AAC	AGC	AAG	ACA	4512
3522	Val	Glu	Cys	Leu	Phe	Asp	Asn	Phe	Glu	Cys	Gln	Gly	Asn	Ser	Lys	Thr	
3523					1490					1495					1500		
3524																	
3525	TGC	AAG	TAT	GAC	AAA	TAC	TGT	GCA	GAC	CAC	TTC	AAA	GAC	AAC	CAC	TGT	4560
3526	Cys	Lys	Tyr	Asp	Lys	Tyr	Cys	Ala	Asp	His	Phe	Lys	Asp	Asn	His	Cys	
3527				1505					1510					1515			
3528																	
3529	AAC	CAG	GGG	TGC	AAC	AGT	GAG	GAG	TGT	GGT	TGG	GAT	GGG	CTG	GAC	TGT	4608
3530	Asn	Gln	Gly	Cys	Asn	Ser	Glu	Glu	Cys	Gly	Trp	Asp	Gly	Leu	Asp	Cys	
3531			1520					1525					1530				
3532																	
3533	GCT	GCT	GAC	CAA	CCT	GAG	AAC	CTG	GCA	GAA	GGT	ACC	CTG	GTT	ATT	GTG	4656
3534	Ala	Ala	Asp	Gln	Pro	Glu	Asn	Leu	Ala	Glu	Gly	Thr	Leu	Val	Ile	Val	
3535		1535					1540					1545					
3536																	
3537	GTA	TTG	ATG	CCA	CCT	GAA	CAA	CTG	CTC	CAG	GAT	GCT	CGC	AGC	TTC	TTG	4704
3538	Val	Leu	Met	Pro	Pro	Glu	Gln	Leu	Leu	Gln	Asp	Ala	Arg	Ser	Phe	Leu	
3539	1550					1555					1560					1565	
3540																	
3541	CGG	GCA	CTG	GGT	ACC	CTG	CTC	CAC	ACC	AAC	CTG	CGC	ATT	AAG	CGG	GAC	4752
3542	Arg	Ala	Leu	Gly	Thr	Leu	Leu	His	Thr	Asn	Leu	Arg	Ile	Lys	Arg	Asp	
3543					1570					1575					1580		
3544																	
3545	TCC	CAG	GGG	GAA	CTC	ATG	GTG	TAC	CCC	TAT	TAT	GGT	GAG	AAG	TCA	GCT	4800
3546	Ser	Gln	Gly	Glu	Leu	Met	Val	Tyr	Pro	Tyr	Tyr	Gly	Glu	Lys	Ser	Ala	
3547				1585					1590					1595			
3548																	
3549	GCT	ATG	AAG	AAA	CAG	AGG	ATG	ACA	CGC	AGA	TCC	CTT	CCT	GGT	GAA	CAA	4848
3550	Ala	Met	Lys	Lys	Gln	Arg	Met	Thr	Arg	Arg	Ser	Leu	Pro	Gly	Glu	Gln	
3551			1600					1605					1610				
3552																	
3553	GAA	CAG	GAG	GTG	GCT	GGC	TCT	AAA	GTC	TTT	CTG	GAA	ATT	GAC	AAC	CGC	4896
3554	Glu	Gln	Glu	Val	Ala	Gly	Ser	Lys	Val	Phe	Leu	Glu	Ile	Asp	Asn	Arg	
3555		1615					1620					1625					
3556																	
3557	CAG	TGT	GTT	CAA	GAC	TCA	GAC	CAC	TGC	TTC	AAG	AAC	ACG	GAT	GCA	GCA	4944
3558	Gln	Cys	Val	Gln	Asp	Ser	Asp	His	Cys	Phe	Lys	Asn	Thr	Asp	Ala	Ala	
3559	1630					1635					1640		</				

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TIME: 13:15:24

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3571	1680	1685	1690	
3572				
3573	CTG GGG GTA ATC ATG GCA AAA CGA AAG CGT AAG CAT GGC TCT CTC TGG			5136
3574	Leu Gly Val Ile Met Ala Lys Arg Lys Arg Lys His Gly Ser Leu Trp			
3575	1695	1700	1705	
3576				
3577	CTG CCT GAA GGT TTC ACT CTT CGC CGA GAT GCA AGC AAT CAC AAG CGT			5184
3578	Leu Pro Glu Gly Phe Thr Leu Arg Arg Asp Ala Ser Asn His Lys Arg			
3579	1710	1715	1720	1725
3580				
3581	CGT GAG CCA GTG GGA CAG GAT GCT GTG GGG CTG AAA AAT CTC TCA GTG			5232
3582	Arg Glu Pro Val Gly Gln Asp Ala Val Gly Leu Lys Asn Leu Ser Val			
3583	1730	1735	1740	
3584				
3585	CAA GTC TCA GAA GCT AAC CTA ATT GGT ACT GGA ACA AGT GAA CAC TGG			5280
3586	Gln Val Ser Glu Ala Asn Leu Ile Gly Thr Gly Thr Ser Glu His Trp			
3587	1745	1750	1755	
3588				
3589	GTC GAT GAT GAA GGG CCC CAG CCA AAG AAA GTA AAG GCT GAA GAT GAG			5328
3590	Val Asp Asp Glu Gly Pro Gln Pro Lys Lys Val Lys Ala Glu Asp Glu			
3591	1760	1765	1770	
3592				
3593	GCC TTA CTC TCA GAA GAA GAT GAC CCC ATT GAT CGA CGG CCA TGG ACA			5376
3594	Ala Leu Leu Ser Glu Glu Asp Asp Pro Ile Asp Arg Arg Pro Trp Thr			
3595	1775	1780	1785	
3596				
3597	CAG CAG CAC CTT GAA GCT GCA GAC ATC CGT AGG ACA CCA TCG CTG GCT			5424
3598	Gln Gln His Leu Glu Ala Ala Asp Ile Arg Arg Thr Pro Ser Leu Ala			
3599	1790	1795	1800	1805
3600				
3601	CTC ACC CCT CCT CAG GCA GAG CAG GAG GTG GAT GTG TTA GAT GTG AAT			5472
3602	Leu Thr Pro Pro Gln Ala Glu Gln Glu Val Asp Val Leu Asp Val Asn			
3603	1810	1815	1820	
3604				
3605	GTC CGT GGC CCA GAT GGC TGC ACC CCA TTG ATG TTG GCT TCT CTC CGA			5520
3606	Val Arg Gly Pro Asp Gly Cys Thr Pro Leu Met Leu Ala Ser Leu Arg			
3607	1825	1830	1835	
3608				
3609	GGA GGC AGC TCA GAT TTG AGT GAT GAA GAT GAA GAT GCA GAG GAC TCT			5568
3610	Gly Gly Ser Ser Asp Leu Ser Asp Glu Asp Glu Asp Ala Glu Asp Ser			
3611	1840	1845	1850	
3612				
3613	TCT GCT AAC ATC ATC ACA GAC TTG GTC TAC CAG GGT GCC AGC CTC CAG			5616
3614	Ser Ala Asn Ile Ile Thr Asp Leu Val Tyr Gln Gly Ala Ser Leu Gln			
3615	1855	1860	1865	
3616				
3617	GCC CAG ACA GAC CGG ACT GGT GAG ATG GCC CTG CAC CTT GCA GCC CGC			5664
3618	Ala Gln Thr Asp Arg Thr Gly Glu Met Ala Leu His Leu Ala Ala Arg			
3619	1870	1875	1880	1885
3620				
3621	TAC TCA CGG GCT GAT GCT GCC AAG CGT CTC CTG GAT GCA GGT GCA GAT			5712

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INPUT SET: S7068.raw

3622	Tyr Ser Arg Ala Asp Ala Ala Lys Arg Leu Leu Asp Ala Gly Ala Asp	
3623	1890 1895 1900	
3624		
3625	GCC AAT GCC CAG GAC AAC ATG GGC CGC TGT CCA CTC CAT GCT GCA GTG	5760
3626	Ala Asn Ala Gln Asp Asn Met Gly Arg Cys Pro Leu His Ala Ala Val	
3627	1905 1910 1915	
3628		
3629	GCA GCT GAT GCC CAA GGT GTC TTC CAG ATT CTG ATT CGC AAC CGA GTA	5808
3630	Ala Ala Asp Ala Gln Gly Val Phe Gln Ile Leu Ile Arg Asn Arg Val	
3631	1920 1925 1930	
3632		
3633	ACT GAT CTA GAT GCC AGG ATG AAT GAT GGT ACT ACA CCC CTG ATC CTG	5856
3634	Thr Asp Leu Asp Ala Arg Met Asn Asp Gly Thr Thr Pro Leu Ile Leu	
3635	1935 1940 1945	
3636		
3637	GCT GCC CGC CTG GCT GTG GAG GGA ATG GTG GCA GAA CTG ATC AAC TGC	5904
3638	Ala Ala Arg Leu Ala Val Glu Gly Met Val Ala Glu Leu Ile Asn Cys	
3639	1950 1955 1960 1965	
3640		
3641	CAA GCG GAT GTG AAT GCA GTG GAT GAC CAT GGA AAA TCT GCT CTT CAC	5952
3642	Gln Ala Asp Val Asn Ala Val Asp Asp His Gly Lys Ser Ala Leu His	
3643	1970 1975 1980	
3644		
3645	TGG GCA GCT GCT GTC AAT AAT GTG GAG GCA ACT CTT TTG TTG TTG AAA	6000
3646	Trp Ala Ala Ala Val Asn Asn Val Glu Ala Thr Leu Leu Leu Leu Lys	
3647	1985 1990 1995	
3648		
3649	AAT GGG GCC AAC CGA GAC ATG CAG GAC AAC AAG GAA GAG ACA CCT CTG	6048
3650	Asn Gly Ala Asn Arg Asp Met Gln Asp Asn Lys Glu Glu Thr Pro Leu	
3651	2000 2005 2010	
3652		
3653	TTT CTT GCT GCC CGG GAG GGG AGC TAT GAA GCA GCC AAG ATC CTG TTA	6096
3654	Phe Leu Ala Ala Arg Glu Gly Ser Tyr Glu Ala Ala Lys Ile Leu Leu	
3655	2015 2020 2025	
3656		
3657	GAC CAT TTT GCC AAT CGA GAC ATC ACA GAC CAT ATG GAT CGT CTT CCC	6144
3658	Asp His Phe Ala Asn Arg Asp Ile Thr Asp His Met Asp Arg Leu Pro	
3659	2030 2035 2040 2045	
3660		
3661	CGG GAT GTG GCT CGG GAT CGC ATG CAC CAT GAC ATT GTG CGC CTT CTG	6192
3662	Arg Asp Val Ala Arg Asp Arg Met His His Asp Ile Val Arg Leu Leu	
3663	2050 2055 2060	
3664		
3665	GAT GAA TAC AAT GTG ACC CCA AGC CCT CCA GGC ACC GTG TTG ACT TCT	6240
3666	Asp Glu Tyr Asn Val Thr Pro Ser Pro Pro Gly Thr Val Leu Thr Ser	
3667	2065 2070 2075	
3668		
3669	GCT CTC TCA CCT GTC ATC TGT GGG CCC AAC AGA TCT TTC CTC AGC CTG	6288
3670	Ala Leu Ser Pro Val Ile Cys Gly Pro Asn Arg Ser Phe Leu Ser Leu	
3671	2080 2085 2090	
3672		

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3673	AAG CAC ACC CCA ATG GGC AAG AAG TCT AGA CGG CCC AGT GCC AAG AGT	6336
3674	Lys His Thr Pro Met Gly Lys Lys Ser Arg Arg Pro Ser Ala Lys Ser	
3675	2095 2100 2105	
3676		
3677	ACC ATG CCT ACT AGC CTC CCT AAC CTT GCC AAG GAG GCA AAG GAT GCC	6384
3678	Thr Met Pro Thr Ser Leu Pro Asn Leu Ala Lys Glu Ala Lys Asp Ala	
3679	2110 2115 2120 2125	
3680		
3681	AAG GGT AGT AGG AGG AAG AAG TCT CTG AGT GAG AAG GTC CAA CTG TCT	6432
3682	Lys Gly Ser Arg Arg Lys Lys Ser Leu Ser Glu Lys Val Gln Leu Ser	
3683	2130 2135 2140	
3684		
3685	GAG AGT TCA GTA ACT TTA TCC CCT GTT GAT TCC CTA GAA TCT CCT CAC	6480
3686	Glu Ser Ser Val Thr Leu Ser Pro Val Asp Ser Leu Glu Ser Pro His	
3687	2145 2150 2155	
3688		
3689	ACG TAT GTT TCC GAC ACC ACA TCC TCT CCA ATG ATT ACA TCC CCT GGG	6528
3690	Thr Tyr Val Ser Asp Thr Thr Ser Ser Pro Met Ile Thr Ser Pro Gly	
3691	2160 2165 2170	
3692		
3693	ATC TTA CAG GCC TCA CCC AAC CCT ATG TTG GCC ACT GCC GCC CCT CCT	6576
3694	Ile Leu Gln Ala Ser Pro Asn Pro Met Leu Ala Thr Ala Pro Pro	
3695	2175 2180 2185	
3696		
3697	GCC CCA GTC CAT GCC CAG CAT GCA CTA TCT TTT TCT AAC CTT CAT GAA	6624
3698	Ala Pro Val His Ala Gln His Ala Leu Ser Phe Ser Asn Leu His Glu	
3699	2190 2195 2200 2205	
3700		
3701	ATG CAG CCT TTG GCA CAT GGG GCC AGC ACT GTG CTT CCC TCA GTG AGC	6672
3702	Met Gln Pro Leu Ala His Gly Ala Ser Thr Val Leu Pro Ser Val Ser	
3703	2210 2215 2220	
3704		
3705	CAG TTG CTA TCC CAC CAC CAC ATT GTG TCT CCA GGC AGT GGC AGT GCT	6720
3706	Gln Leu Leu Ser His His His Ile Val Ser Pro Gly Ser Gly Ser Ala	
3707	2225 2230 2235	
3708		
3709	GGA AGC TTG AGT AGG CTC CAT CCA GTC CCA GTC CCA GCA GAT TGG ATG	6768
3710	Gly Ser Leu Ser Arg Leu His Pro Val Pro Val Pro Ala Asp Trp Met	
3711	2240 2245 2250	
3712		
3713	AAC CGC ATG GAG GTG AAT GAG ACC CAG TAC AAT GAG ATG TTT GGT ATG	6816
3714	Asn Arg Met Glu Val Asn Glu Thr Gln Tyr Asn Glu Met Phe Gly Met	
3715	2255 2260 2265	
3716		
3717	GTC CTG GCT CCA GCT GAG GGC ACC CAT CCT GGC ATA GCT CCC CAG AGC	6864
3718	Val Leu Ala Pro Ala Glu Gly Thr His Pro Gly Ile Ala Pro Gln Ser	
3719	2270 2275 2280 2285	
3720		
3721	AGG CCA CCT GAA GGG AAG CAC ATA ACC ACC CCT CGG GAG CCC TTG CCC	6912
3722	Arg Pro Pro Glu Gly Lys His Ile Thr Thr Pro Arg Glu Pro Leu Pro	
3723	2290 2295 2300	

INPUT SET: S7068.raw

3724																	
3725	CCC	ATT	GTG	ACT	TTC	CAG	CTC	ATC	CCT	AAA	GGC	AGT	ATT	GCC	CAA	CCA	6960
3726	Pro	Ile	Val	Thr	Phe	Gln	Leu	Ile	Pro	Lys	Gly	Ser	Ile	Ala	Gln	Pro	
3727				2305					2310					2315			
3728																	
3729	GCG	GGG	GCT	CCC	CAG	CCT	CAG	TCC	ACC	TGC	CCT	CCA	GCT	GTT	GCG	GGC	7008
3730	Ala	Gly	Ala	Pro	Gln	Pro	Gln	Ser	Thr	Cys	Pro	Pro	Ala	Val	Ala	Gly	
3731			2320					2325					2330				
3732																	
3733	CCC	CTG	CCC	ACC	ATG	TAC	CAG	ATT	CCA	GAA	ATG	GCC	CGT	TTG	CCC	AGT	7056
3734	Pro	Leu	Pro	Thr	Met	Tyr	Gln	Ile	Pro	Glu	Met	Ala	Arg	Leu	Pro	Ser	
3735		2335					2340					2345					
3736																	
3737	GTG	GCT	TTC	CCC	ACT	GCC	ATG	ATG	CCC	CAG	CAG	GAC	GGG	CAG	GTA	GCT	7104
3738	Val	Ala	Phe	Pro	Thr	Ala	Met	Met	Pro	Gln	Gln	Asp	Gly	Gln	Val	Ala	
3739	2350					2355					2360					2365	
3740																	
3741	CAG	ACC	ATT	CTC	CCA	GCC	TAT	CAT	CCT	TTC	CCA	GCC	TCT	GTG	GGC	AAG	7152
3742	Gln	Thr	Ile	Leu	Pro	Ala	Tyr	His	Pro	Phe	Pro	Ala	Ser	Val	Gly	Lys	
3743					2370					2375					2380		
3744																	
3745	TAC	CCC	ACA	CCC	CCT	TCA	CAG	CAC	AGT	TAT	GCT	TCC	TCA	AAT	GCT	GCT	7200
3746	Tyr	Pro	Thr	Pro	Pro	Ser	Gln	His	Ser	Tyr	Ala	Ser	Ser	Asn	Ala	Ala	
3747				2385					2390					2395			
3748																	
3749	GAG	CGA	ACA	CCC	AGT	CAC	AGT	GGT	CAC	CTC	CAG	GGT	GAG	CAT	CCC	TAC	7248
3750	Glu	Arg	Thr	Pro	Ser	His	Ser	Gly	His	Leu	Gln	Gly	Glu	His	Pro	Tyr	
3751			2400					2405					2410				
3752																	
3753	CTG	ACA	CCA	TCC	CCA	GAG	TCT	CCT	GAC	CAG	TGG	TCA	AGT	TCA	TCA	CCC	7296
3754	Leu	Thr	Pro	Ser	Pro	Glu	Ser	Pro	Asp	Gln	Trp	Ser	Ser	Ser	Ser	Pro	
3755		2415					2420					2425					
3756																	
3757	CAC	TCT	GCT	TCT	GAC	TGG	TCA	GAT	GTG	ACC	ACC	AGC	CCT	ACC	CCT	GGG	7344
3758	His	Ser	Ala	Ser	Asp	Trp	Ser	Asp	Val	Thr	Thr	Ser	Pro	Thr	Pro	Gly	
3759	2430					2435					2440					2445	
3760																	
3761	GGT	GCT	GGA	GGA	GGT	CAG	CGG	GGA	CCT	GGG	ACA	CAC	ATG	TCT	GAG	CCA	7392
3762	Gly	Ala	Gly	Gly	Gly	Gln	Arg	Gly	Pro	Gly	Thr	His	Met	Ser	Glu	Pro	
3763				2450					2455					2460			
376																	

RAW SEQUENCE LISTING
PATENT APPLICATION - US/08/083,590DATE: 12/16/93
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3775	ATTCTAATCT	AATAAGACAA	GTTTGTGGAA	ATGCAAGATG	AATACAAGCC	TTGGGTCCAT	7679
3776							
3777	GTTTACTCTC	TTCTATTTGG	AGAATAAGAT	GGATGCTTAT	TGAAGCCCAG	ACATTCTTGC	7739
3778							
3779	AGCTTGGACT	GCATTTTAAG	CCCTGCAGGC	TTCTGCCATA	TCCATGAGAA	GATTCTACAC	7799
3780							
3781	TAGCGTCCTG	TTGGGAATTA	TGCCCTGGAA	TTCTGCCTGA	ATTGACCTAC	GCATCTCCTC	7859
3782							
3783	CTCCTTGGAC	ATTCTTTTGT	CTTCATTTGG	TGCTTTTGGT	TTTGACCTC	TCCGTGATTG	7919
3784							
3785	TAGCCCTACC	AGCATGTTAT	AGGGCAAGAC	CTTTGTGCTT	TTGATCATTC	TGGCCCATGA	7979
3786							
3787	AAGCAACTTT	GGTCTCCTTT	CCCCTCCTGT	CTTCCCGGTA	TCCCTTGGAG	TCTCACAAGG	8039
3788							
3789	TTTACTTTGG	TATGGTTCTC	AGCACAAACC	TTTCAAGTAT	GTTGTTTCTT	TGGAAATGG	8099
3790							
3791	ACATACTGTA	TTGTGTTCTC	CTGCATATAT	CATTCTTGGA	GAGAGAAGGG	GAGAAGAATA	8159
3792							
3793	CTTTTCTTCA	ACAAATTTTG	GGGGCAGGAG	ATCCCTTCAA	GAGGCTGCAC	CTTAATTTTT	8219
3794							
3795	CTTGTCTGTG	TGCAGGTCTT	CATATAAACT	TTACCAGGAA	GAAGGGTGTG	AGTTTGTGTG	8279
3796							
3797	TTTTCTGTGT	ATGGGCCTGG	TCAGTGTAAG	GTTTTATCCT	TGATAGTCTA	GTTACTATGA	8339
3798							
3799	CCCTCCCCAC	TTTTTTTAAA	CCAGAAAAAG	GTTTGGAATG	TTGGAATGAC	CAAGAGACAA	8399
3800							
3801	GTAACTCGT	GCAAGAGCCA	GTTACCCACC	CACAGGTCCC	CCTACTTCCT	GCCAAGCATT	8459
3802							
3803	CCATTGACTG	CCTGTATGGA	ACACATTTGT	CCCAGATCTG	AGCATTCTAG	GCCTGTTTCA	8519
3804							
3805	CTCACTCACC	CAGCATATGA	AACTAGTCTT	AACTGTTGAG	CCTTTCCTTT	CATATCCACA	8579
3806							
3807	GAAGACACTG	TCTCAAATGT	TGTACCCTTG	CCATTTAGGA	CTGAACTTTC	CTTAGCCCCA	8639
3808							
3809	GGGACCCAGT	GACAGTTGTC	TTCCGTTTGT	CAGATGATCA	GTCTCTACTG	ATTATCTTGC	8699
3810							
3811	TGCTTAAAGG	CCTGCTCACC	AATCTTTCTT	TCACACCGTG	TGGTCCGTGT	TACTGGTATA	8759
3812							
3813	CCCAGTATGT	TCTCACTGAA	GACATGGACT	TTATATGTTT	AAGTGCAGGA	ATTGGAAAGT	8819
3814							
3815	TGGACTTGTT	TTCTATGATC	CAAAACAGCC	CTATAAGAAG	GTTGGAAAAG	GAGGAACTAT	8879
3816							
3817	ATAGCAGCCT	TTGCTATTTT	CTGCTACCAT	TTCTTTTCCT	CTGAAGCGGC	CATGACATTC	8939
3818							
3819	CCTTTGGCAA	CTAACGTAGA	AACTCAACAG	AACATTTTCC	TTTCCTAGAG	TCACCTTTTA	8999
3820							
3821	GATGATAATG	GACAACTATA	GACTTGCTCA	TTGTTTCAGAC	TGATTGCCCC	TCACCTGAAT	9059
3822							
3823	CCACTCTCTG	TATTCATGCT	CTTGGAATT	TCTTTGACTT	TCTTTTAAGG	GCAGAAGCAT	9119
3824							
3825	TTTAGTTAAT	TGTAGATAAA	GAATAGTTTT	CTTCTCTTTC	TCCTTGGGCC	AGTTAATAAT	9179

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3826								
3827	TGGTCCATGG	CTACACTGCA	ACTTCCGTCC	AGTGCTGTGA	TGCCCATGAC	ACCTGCAAAA		9239
3828								
3829	TAAGTTCTGC	CTGGGCATTT	TGTAGATATT	AACAGGTGAA	TTCCCGACTC	TTTTGGTTTG		9299
3830								
3831	AATGACAGTT	CTCATTCCTT	CTATGGCTGC	AAGTATGCAT	CAGTGCTTCC	CACTTACCTG		9359
3832								
3833	ATTTGTCTGT	CGGTGGCCCC	ATATGGAAAC	CCTGCGTGTC	TGTTGGCATA	ATAGTTTACA		9419
3834								
3835	AATGGTTTTT	TCAGTCCTAT	CCAAATTTAT	TGAACCAACA	AAAATAATTA	CTTCTGCCCT		9479
3836								
3837	GAGATAAGCA	GATTAAGTTT	GTTCAATTCTC	TGCTTTATTC	TCTCCATGTG	GCAACATTCT		9539
3838								
3839	GTCAGCCTCT	TTCATAGTGT	GCAAACATTT	TATCATTCTA	AATGGTGA	CTCTGCCCTT		9599
3840								
3841	GGACCCATTT	ATTATTCACA	GATGGGGAGA	ACCTATCTGC	ATGGACCCTC	ACCATCCTCT		9659
3842								
3843	GTGCAGCACA	CACAGTGCAG	GGAGCCAGTG	GCGATGGCGA	TGACTTTCTT	CCCCTGGGAA		9719
3844								
3845	TTCC							9723
3846								
3847								

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SEQUENCE VERIFICATION REPORT
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DATE: 12/16/93
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SEQUENCE MISSING ITEM REPORT
PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:16:02

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APPLICATION NUMBER
FILING DATE
PRIOR APPLICATION DATA

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SEQUENCE CORRECTION REPORT
PATENT APPLICATION US/08/083,590

DATE: 12/16/93
TIME: 13:16:03

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Line	Original Text	Corrected Text
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